TOWN OF FAIRHAVEN, MASSACHUSETTS
FARMFIELD STREET, HARBOR VIEW AVENUE AND AKIN STREET
ROADWAY IMPROVEMENT PROJECT
APRIL 6, 2022

ABBREVIATIONS

ALT	ALTERNATE
BB	BITUMINOUS BERM
BND	BOUND
BLDG	BUILDING
BIT CONC	BITUMINOUS CONCRETE
BM	BENCH MARK
BOL	BOLLARD
BRK	BRICK
CB	CATCH BASIN
CS	COMBINED SEWER
C	CONDUIT
℄	CENTERLINE
CIP	CAST IRON PIPE
CMP	CORRUGATED METAL PIPE
CSMH	COMBINED SEWER MANHOLE
CST	COBBLESTONE
CULV	CULVERT
CO	COUNTY
CONC	CONCRETE
C.L.D.I.	CONC. LINED DUCTILE IRON
CLF	CHAIN LINK FENCE
DI	DUCTILE IRON PIPE
DR	DRIVE
DMH	DRAIN MANHOLE
EMH	ELECTRIC MANHOLE
EX	EXISTING
FAB	FIRE ALARM BOX
EOP	EDGE OF PAVEMENT
GC	GRANITE CURB
GG	GAS GATE
GS	GAS SERVICE
GIP	GALVANIZED IRON PIPE
HW	HEADWALL
HSE	HOUSE
HOR	HORIZONTAL
HYD	HYDRANT
HP	HIGH PRESSURE
LP	LIGHT POLE
MB	MAIL BOX
MH	MANHOLE
MIN	MINIMUM
PE	POLYETHYLENE PIPE
PROP	PROPOSED
⅊	APPROXIMATE PROPERTY LINE
RCP	REINFORCED CONCRETE PIPE
RET WALL	RETAINING WALL
ROW	APPROXIMATE RIGHT OF WAY
RR	RAILROAD
SB	STONE BOUND
S	SIGN
SMH	SEWER MANHOLE
STA	STATION
S	SEWER
SS	SEWER SERVICE
STL	STEEL
SW	SIDEWALK
TBM	TEMPORARY BENCHMARK
TMH	TELEPHONE MANHOLE
TR	TREE
TYP	TYPICAL
UP	UTILITY POLE
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
W	WATER MAIN
WG	WATER GATE
WD	WOOD
WIP	WROUGHT IRON PIPE
WS	WATER SERVICE
WSO	WATER SERVICE SHUTOFF
WV	WATER VALVE

SYMBOLS

◒	BENCHMARK
▫	BOUND
▨	BUILDING
□	CATCH BASIN
Ⓓ	DRAIN MANHOLE
Ⓔ	ELECTRIC MANHOLE
▽	FLARED END
GG ⋈	GAS GATE
▭	HAYBALE
⌒	HEADWALL
☼	HYDRANT
◎	IRON PIPE
☀	LIGHTPOLE
▫	MAILBOX
Ⓜ	MANHOLE
•	PERC TEST
Ⓢ	SEWER MANHOLE
Ⓣ	TELEPHONE MANHOLE
·	TEST PIT
❋	TREE
⊸	SIGN
○	UTILITY POLE
WG ⋈	WATER GATE

LINEWORK

EXISTING	PROPOSED	
—100—	—100—	CONTOUR MAJOR
—101—	—101—	CONTOUR MINOR
—D—	—D—	DRAIN LINE
—E—	—E—	ELECTRIC LINE
—ECT—	—ECT—	ELECTRIC TELEPHONE CABLE
—G—	—G—	GAS LINE
——	——	PROPERTY LINE
——	N/A	SETBACK
—S—	—S—	SEWER LINE
—T—	—T—	TELEPHONE LINE
⌒⌒⌒	N/A	TREE LINE
—W—	—W—	WATER LINE

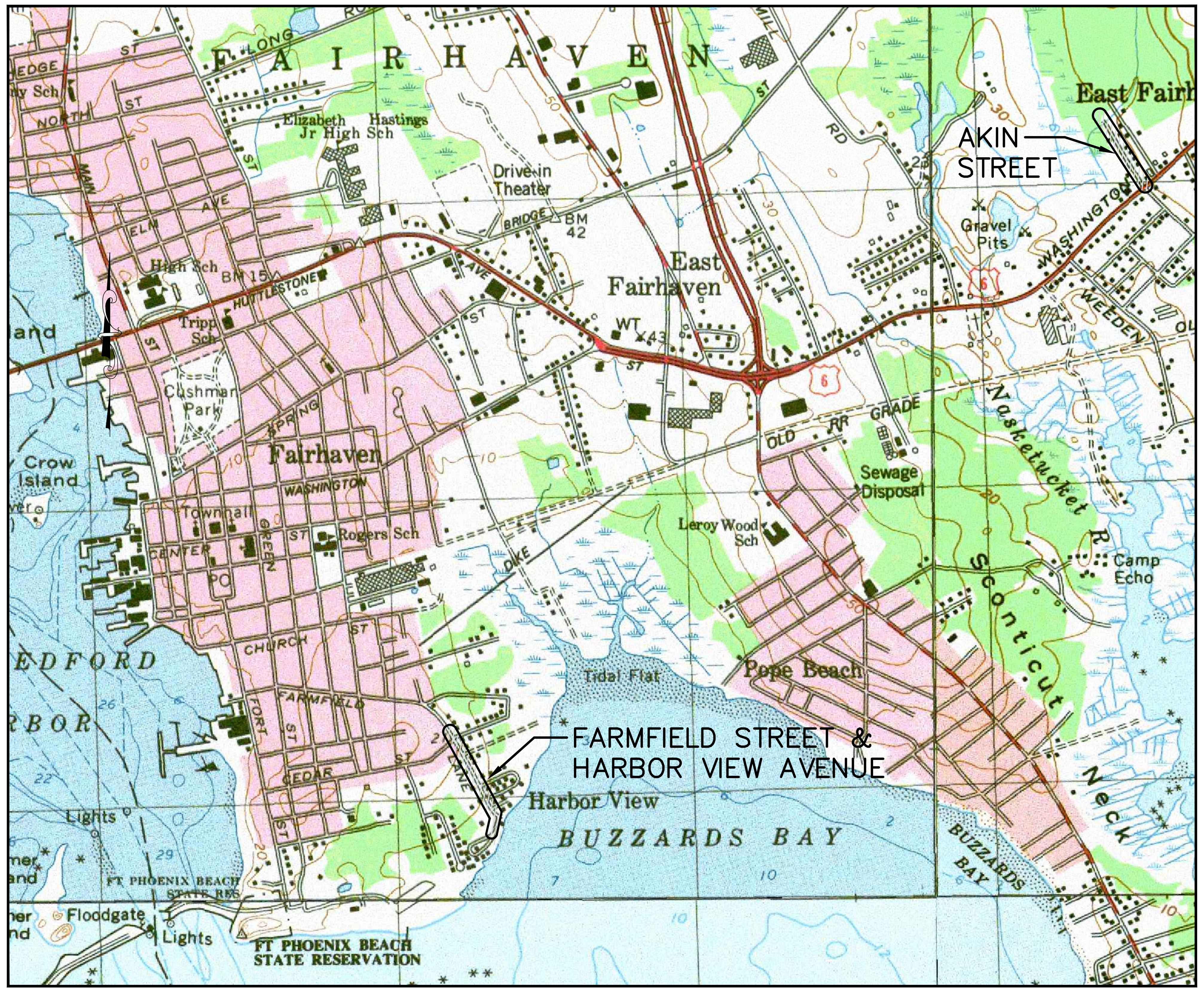

IMAGE OBTAINED FROM: "OFFICE OF GEOGRAPHIC AND ENVIRONMENTAL INFORMATION (MASSGIS), COMMONWEALTH OF MASSACHUSETTS"

LOCUS PLAN

SCALE : 1" = 1,000'±

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4/6/2022

GCG ASSOCIATES INC. CONSULTING ENGINEERS WILMINGTON, MASSACHUSETTS

REV.	DATE	DESCRIPTION	BY
3	4/6/22	COMBINE PROJECTS PLANS AND UPDATE SHEETS WITH MASSDOT ACCESS PERMIT REQUIREMENTS	JTC

GENERAL NOTES

1. PLANS AND TOPOGRAPHIC INFORMATION ARE PREPARED FROM A GROUND INSTRUMENT SURVEY PERFORMED AND AN AERIAL DRONE SURVEY BY GCG ASSOCIATES, INC.
2. THE LOCATIONS SHOWN REFER TO MASSACHUSETTS STATE PLANE COORDINATE SYSTEM. (NAD 83 –NAVD 88).
3. PROPERTY LINES AND SIDELINES WERE ESTABLISHED, APPROXIMATELY, FROM MASS GIS DATA LAYERS AND PLANS OBTAINED AT THE BRISTOL COUNTY REGISTRY OF DEEDS.
4. THE LOCATIONS OF SUBSURFACE UTILITIES AND STRUCTURES WERE OBTAINED FROM AVAILABLE TOWN AND UTILITY RECORDS. THE SIZE, TYPE AND LOCATION OF UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL PROPERLY LOCATE THE UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN UTILITY INFORMATION BY CONTACTING DIGSAFE (811).
5. THE CONTRACTOR SHALL EXCAVATE TEST PITS ALONG THE ALIGNMENT OF THE PROPOSED DRAINAGE AND WATER SYSTEM TO LOCATE THE EXISTING SEWER, WATER AND GAS MAINS AND SERVICES AS REQUIRED BY THE ENGINEER AND PRIOR TO ORDERING THE DRAINAGE AND WATER SYSTEM AND COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL PLAN AND PERFORM TEST PIT EXCAVATION WELL IN ADVANCE OF COMMENCING CONSTRUCTION TO ALLOW TIME TO REVIEW ACTUAL CONDITIONS ENCOUNTERED. TEST PITS NOT SPECIFICALLY IDENTIFIED SHALL BE EXCAVATED BY THE CONTRACTOR AT THE DIRECTION OF THE ENGINEER. INCLUDE FOR PAYMENT UNDER THE UNCLASSIFIED EXCAVATION ITEM.
6. WATER MAINS ARE ASSUMED TO BE 5 FEET BELOW THE EXISTING GROUND SURFACE. GAS LINES ARE ASSUMED TO BE 3 FEET BELOW THE EXISTING GROUND SURFACE. TELEPHONE AND ELECTRIC CONDUIT ARE ASSUMED TO BE 2 FEET BELOW THE EXISTING GROUND SURFACE.
7. LOCATION OF PROPOSED WATER AND DRAINAGE SYSTEM MAY BE ALTERED IN THE FIELD BY THE ENGINEER TO SUIT FIELD CONDITIONS.
8. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A CONSTRUCTION SCHEDULE DELINEATING THE SEQUENCE OF WORK, TRAFFIC MANAGEMENT PLAN AND ESTIMATED TIME OF COMPLETION OF EACH SEGMENT OF WORK, PRIOR TO THE COMMENCEMENT OF WORK.
9. THE CONTRACTOR SHALL MAINTAIN CONTINUOUS TRAFFIC FLOW DURING CONSTRUCTION SATISFACTORY TO THE ENGINEER AND THE TOWN OF FAIRHAVEN. NO EQUIPMENT SHALL BE ALLOWED TO BE PARKED ON THE ROAD WHEN NOT IN USE. MATERIALS SHALL NOT BE STOCKPILED ON THE ROAD.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE RESTORATION AND CLEAN UP UPON COMPLETION OF THE PROJECT. PAYMENT UNDER ASSOCIATED ITEM.
11. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES AND PROCEDURES, AND FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH ALL WORK INCLUDED UNDER THIS CONTRACT. THE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROVIDING AND MAINTAINING ALL SAFETY BARRIERS, WARNING FLASHERS AND THE LIKE, AS REQUIRED BY THE CONDUCT OF THE WORK FOR THE PROTECTION OF WORKERS AND NON–WORKERS ALIKE. THE CONTRACTORS ATTENTION IS DIRECTED TO OSHA REQUIREMENTS.
12. ALL CONSTRUCTION SIGNING SHALL CONFORM TO THE REQUIREMENTS OF THE STATE OF MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (MASSDOT) AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
13. PRIOR TO THE PROPOSED CONSTRUCTION ON AKIN STREET, FARMFIELD STREET AND HARBOR VIEW AVENUE, THE CONTRACTOR SHALL SUBMIT FOR REVIEW BY THE TOWN, A TRAFFIC MANAGEMENT PLAN IN COMPLIANCE WITH MASSDOT AND MUTCD. SAID PLAN WILL SHOW HOW TRAFFIC FLOW WILL BE HANDLED DURING CONSTRUCTION.
14. TRENCH DEWATERING COSTS THROUGHOUT THE DURATION OF THE PROPOSED PROJECT SHALL BE INCLUDED IN THE APPLICABLE BID ITEMS. GROUNDWATER ELEVATION IS ASSUMED TO BE 2' BELOW THE EXISTING ROADWAY FOR BIDDING PURPOSES.
15. ALL CONSTRUCTION MATERIAL, DEBRIS, ASPHALT, SOIL, ETC. THAT IS REMOVED FROM THE SITE SHALL BE HANDLED AND DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.

ADDITIONAL RECLAMATION NOTE FOR AKIN ST – PROPOSED RECLAIM & PAVED ROAD

1. ALL PROPOSED CUTS AND FILLS REQUIRED TO GRADE THE RECLAIMED BASE COURSE MATERIAL TO A 12" DEPTH ACCORDING TO THE PROPOSED GRADES, SHALL BE INCLUDED FOR PAYMENT UNDER THE THE RECLAIM ITEM.
2. THE CONTRACTOR SHALL FINE GRADE THE RECLAIMED BASE COURSE MATERIAL TO MATCH THE PROPOSED CENTERLINE GRADE AS SHOWN ON THE PROPOSED PROFILE AND TO MEET THE PAVEMENT REQUIREMENTS AS SHOWN ON THE TYPICAL ROADWAY CROSS SECTION PLAN.
3. THE COST ASSOCIATED WITH THE EXCAVATION, PLACEMENT AND DISPOSAL OF SURPLUS SUBBASE AND RECLAIMED PAVEMENT SUBBASE MATERIALS SHALL BE INCLUDED FOR PAYMENT IN THE RECLAIM ITEM. SURPLUS SUBBASE MATERIALS ARE THE RESPONSIBILITY TO DISPOSE OF AND PROPERTY OF THE CONTRACTOR.
4. THE CONTRACTOR SHALL STOCKPILE AND RETAIN SUFFICIENT SURPLUS SUBBASE AND RECLAIMED PAVEMENT SUBBASE MATERIALS TO USE AS NEEDED IN THE ENTIRE PROJECT.

RAISING CASTINGS

1. AFTER MINIMUM 30 DAY SETTLEMENT OF TRENCHES HAS PASSED, ALL CASTINGS WILL BE LOWERED OR REMOVED AND PLATED PRIOR TO EXCAVATING OR RECLAIMING THE ROADWAY.
2. ALL CASTINGS WILL BE RAISED TO FINISHED GRADE AFTER PLACEMENT OF THE 2–1/2" BINDER PAVING COURSE, PRIOR TO PLACEMENT OF THE 1–1/2" FINAL PAVING COURSE.

FARMFIELD STREET – PROPOSED PAVED ROAD
HARBOR VIEW AVENUE PROPOSED GRAVEL ROAD
FULL DEPTH EXCAVATION AND BACKFILL NOTES
AKIN ST – PROPOSED RECLAIM & PAVED ROAD

1. ALL TRENCHES WILL BE COMPACTED TO ALLOW PROPER SETTLEMENT. ALL TRENCHES WILL BE COMPACTED TO 95% COMPACTION. INCLUDE PAYMENT UNDER ASSOCIATED ITEM.
2. AFTER THE COMPACTION PROCESS IS COMPLETED, THE CONTRACTOR SHALL MAINTAIN TRENCH GRAVEL FLUSH TO EXISTING GRADE UNTIL FARMFIELD STREET AND HARBOR VIEW AVENUE IS RECONSTRUCTED. IF REQUIRED BY THE ENGINEER, TRENCH PAVING SHALL BE INSTALLED TO STABILIZE AREAS AS NEEDED.
3. THE CONTRACTOR WILL ALLOW THE TRENCHES TO SETTLE THE REQUIRED PERIOD (30 DAY MIN) AS STATED IN THE SPECIFICATIONS PRIOR TO EXCAVATING THE ENTIRE WIDTH OF ROADWAY.
4. THE CONTRACTOR SHALL LOWER AND PLATE UTILITY CASTINGS, UTILITY VALVE BOXES, FRAMES AND COVERS WITHIN THE ROAD AND LATER RESTORE ALL UTILITY CASTINGS, UTILITY VALVE BOXES, FRAMES AND COVERS TO THE TOP OF FINISHED GRADE.
5. THE ENTIRE WIDTH OF EXISTING PAVEMENT MATERIAL ON AKIN STREET SHALL BE RECLAIMED, PULVERIZED AND BLENDED TO A MINIMUM 16" DEPTH. THE CONTRACTOR SHALL GRADE AND COMPACT THE RECLAIMED BASE COURSE TO A 12" DEPTH AS SHOWN ON THE PROPOSED ROADWAY PROFILE AND CROSS–SECTION TO ALLOW THE PLACEMENT OF A 2–1/2" INTERMEDIATE COURSE (SIC–12.5–TABLE 460.1) AND A 1–1/2" SURFACE COURSE (SSC–9.5–TABLE 460.1) AS SPECIFIED AND ACCORDING TO MASSDOT SECTION 460–"HOT MIX ASPHALT PAVEMENT FOR LOCAL ROADS".
6. FARMFIELD STREET SHALL BE EXCAVATED TO A MINIMUM DEPTH OF 16" BELOW THE PROPOSED FINISHED GRADE WITHIN THE PROJECT LIMITS AND MATERIAL DISPOSED OF OR SEPARATED AS DEFINED IN THE MEASUREMENT AND PAYMENT UNDER ITEM 4B – "ROADWAY EXCAVATION AND DISPOSAL".
7. HARBOR VIEW AVENUE SHALL BE EXCAVATED TO A MINIMUM DEPTH OF 12" BELOW THE PROPOSED FINISHED GRADE WITHIN THE PROJECT LIMITS AND MATERIAL DISPOSED OF OR SEPARATED AS DEFINED IN THE MEASUREMENT AND PAYMENT UNDER ITEM 4B – "ROADWAY EXCAVATION AND DISPOSAL".
8. DUE TO THE EXCAVATION DEPTHS AND MINIMAL COVER REMAINING OVER EXISTING UTILITIES – EXCAVATION SHALL NOT BE ALLOWED WITH HEAVY EQUIPMENT WHICH REQUIRES TRAVEL ON THE EXCAVATED AREA. ALL EXCAVATION OF THE ROADWAY, PLACING AND LOADING OF TRUCKS SHALL BE PERFORMED ON THE EXISTING PAVEMENT GRADE. CONSTRUCTION EQUIPMENT OR TRUCKS SHALL NOT BE ALLOWED TO DRIVE ON THE EXCAVATED ROADWAY UNTIL THE ROADWAY IS BACKFILLED TO THE PROPOSED GRADE.
9. THE CONTRACTOR SHALL CAREFULLY EXCAVATE TO THE ROADWAY EXCAVATION LIMITS AND SHALL NOT DAMAGE THE EXISTING UTILITIES. EXISTING UTILITIES DAMAGED DURING THE EXCAVATION OF THE ROADWAY SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
10. THE CONTRACTOR SHALL BACKFILL AND COMPACT THE ROAD TO THE PROPOSED ROAD GRADE AND CROSS SECTION AS SHOWN ON THE PLANS AND AS DEFINED IN THE MEASUREMENT AND PAYMENT UNDER ITEM 4F – "ROADWAY GRAVEL BACKFILL WITHIN NORMAL LIMITS" WITH GRAVEL BORROW WHICH SHALL BE BE M1.003.0 TYPE "B" GRAVEL AS SPECIFIED BY THE 2020 MASSDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
11. FARMFIELD STREET SHALL BE FINE GRADED, COMPACTED AND PAVED. MOST OF HARBOR VIEW AVENUE SHALL BE FINE GRADED AND COMPACTED ONLY.
12. AFTER EXCAVATING THE EXISTING IN PLACE ASPHALT AND UNDERLYING MATERIALS TO THE PROPOSED GRAVEL SUBGRADE, THE CONTRACTOR SHALL BACKFILL, GRADE AND COMPACT THE GRAVEL BASE COURSE TO THE PROPOSED ROAD GRADES AND TYPICAL PROPOSED ROADWAY CROSS–SECTION SHOWN ON THE PLANS AND ON FARMFIELD STREET – TO ALLOW THE PLACEMENT OF A 2–1/2" INTERMEDIATE COURSE (SIC–12.5–TABLE 460.1) AND A 1–1/2" SURFACE COURSE (SSC–9.5–TABLE 460.1) AS SPECIFIED AND ACCORDING TO MASSDOT SECTION 460–"HOT MIX ASPHALT PAVEMENT FOR LOCAL ROADS".
13. THE CONTRACTOR SHALL FINE GRADE THE RECLAIMED OR BACKFILLED GRAVEL BASE COURSE MATERIAL NO MORE THAT 24 HOURS PRIOR TO THE PLACEMENT OF THE 2–1/2" BASE COURSE PAVEMENT. ALL GRADING, COMPACTION AND DUST CONTROL ASSOCIATED WITH THE GRAVEL BASE COURSE SHALL BE INCLUDED IN THE PRICE OF ITEM 4E – "FINE GRADING AND COMPACTING OF SUBGRADE AREAS"
14. THE CONTRACTOR SHALL GRADE THE GRAVEL BASE COURSE MATERIAL TO MATCH THE PROPOSED CENTERLINE GRADE AS SHOWN ON THE PROPOSED PROFILE AND TO MEET THE SURFACE AND PAVEMENT REQUIREMENTS SHOWN ON THE TYPICAL ROADWAY CROSS SECTION PLAN.
15. THE CONTRACTOR SHALL STOCKPILE AND RETAIN SUFFICIENT SURPLUS SUBBASE MATERIALS TO USE AS NEEDED IN THE ENTIRE PROJECT AREA. THE COSTS ASSOCIATE WITH THE EXCAVATION, PLACEMENT AND DISPOSAL OF SURPLUS SUBBASE MATERIAL SHALL BE INCLUDED IN THE APPROPRIATE ITEM. NO ADDITIONAL PAYMENT FOR PLACEMENT SHALL BE MADE. SURPLUS SUBBASE MATERIAL MAY BE USED ONSITE PRIOR TO GRAVEL BORROW MATERIAL. ANY EXCESS SUBBASE MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. NO ADDITIONAL PAYMENT FOR DISPOSAL SHALL BE MADE.
16. IN AREAS WHERE A PARKING OR PAVEMENT EXPANSION IS PROPOSED, THE EXISTING SOILS SHALL BE EXCAVATED TO THE REQUIRED SUBGRADE DEPTH THEN BACKFILLED AND COMPACTED WITH A SUITABLE 12" THICK SUBBASE LAYER.
17. PRIOR TO COMPLETING FINAL GRADING OF THE SUBBASE COURSE, THE ENGINEER SHALL REVIEW GRADES TO DETERMINE THAT SUFFICIENT CROSS SLOPES AND POSITIVE DRAINAGE FLOWS HAVE BEEN MAINTAINED. IF GRADES NEED TO BE ADJUSTED, THE CONTRACTOR SHALL REGRADE AS DIRECTED.
18. CROSS SLOPES AT CATCH BASINS SHALL BE ADJUSTED AS NECESSARY TO ASSURE PROPER DRAINAGE.
19. CONTRACTOR SHALL CONTROL DUST DURING CONSTRUCTION USING CALCIUM CHLORIDE AS NECESSARY.
20. DRIVEWAY APRONS SHALL BE REMOVED AND REPLACED AS DETERMINED BY THE ENGINEER FOR A SMOOTH TRANSITION FROM THE PROPOSED EDGE OF PAVEMENT/CURB TO THE EXISTING GRADE.

FINE GRADING AND COMPACTING

1. THE CONTRACTOR SHALL FINE GRADE AND COMPACT ALL AREAS IN PREPARATION FOR PAVEMENT, INCLUDING, BUT NOT LIMITED TO THE ROADWAY AREAS AND TRANSITION DRIVEWAY AREAS. THE CONTRACTOR SHALL ALSO STRAIGHT CUT ALL EXISTING JOINTS AND EDGES IN PREPARATION FOR FINAL PAVEMENT.
2. PAYMENT FOR GRADING AND COMPACTING THE PROPOSED OR RECONSTRUCTED SIDEWALKS, RAMPS AND DRIVEWAY APRONS SHALL BE INCLUDED IN THE APPROPRIATE SIDEWALK, APRON, OR RAMP ITEM.
3. PAYMENT FOR FINE GRADING AND COMPACTING THE RECONSTRUCTED BITUMINOUS ROADWAY SHALL BE INCLUDED IN THE APPROPRIATE CONTRACT ITEM.

STOCKPILED EXCAVATED MATERIALS

1.) THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING A LOCATION FOR STAGING AND STORING STOCKPILED MATERIALS.

2.) THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF LOCATION AND ANY PRIVATE AGREEMENTS AND ALL FEES THAT MAY BE ASSOCIATED WITH THE USE OF AN AREA FOR STORING STOCKPILED MATERIALS.

3.) THE TOWN OF FAIRHAVEN IS NOT RESPONSIBLE FOR PROVIDING A LOCATION FOR STAGING OR STORAGE OF STOCKPILED MATERIAL.

4.) MATERIALS SHALL NOT BE STOCKPILED ON THE ROAD OR IN PUBLIC PARKING AREAS.

5.) NO EQUIPMENT SHALL BE ALLOWED TO BE PARKED ON THE ROAD WHEN NOT IN USE.

6.) STOCKPILED SUITABLE EXCAVATED MATERIAL SHALL BE USED ONSITE FOR SUITABLE TRENCH BACKFILL AND OTHER AREAS REQUIRING SUITABLE BACKFILL. NO ADDITIONAL PAYMENT SHALL BE MADE FOR THE PLACEMENT OF THIS MATERIAL.

7.) ALL SURPLUS EXCAVATED MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DISPOSE OF OFFSITE IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.

MISCELLANEOUS NOTES

1. THE CONTRACTOR SHALL CUT JOINTS IN THE EXISTING PAVEMENT AREAS WHERE THE PROPOSED PAVEMENT SHALL MEET TO ALLOW A SMOOTH TRANSITION AFTER PAVING. ALL JOINTS SHALL BE SANDED AND SEALED.
2. THE CONTRACTOR WILL INSTALL ALL TEMPORARY SEDIMENTATION BARRIERS AS REQUIRED DURING CONSTRUCTION.
3. PAYMENT FOR REMOVING AND DISPOSING OF EXISTING MANHOLES, CATCH BASINS AND PIPE AS SPECIFIED AND SHOWN ON THE PLANS TO BE INCLUDED IN THE ASSOCIATED ITEM.
4. ANY COORDINATION OF RELOCATION OF WATER, SEWER, ELECTRIC, TELEPHONE, AND CABLE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
5. ANY COORDINATION OF RELOCATION OF STREET SIGNS, MAILBOXES ETC. SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
6. EXISTING GRATES, FRAMES AND COVERS REMOVED FROM THE WORK SHALL BE DELIVERED TO THE FAIRHAVEN DPW BY THE CONTRACTOR.
7. ALL TRENCHES SHALL BE SAWCUT ONLY. NO OTHER METHOD OF CUTTING THE EXISTING PAVEMENT SHALL BE ACCEPTABLE. NO SEPARATE PAYMENTS SHALL BE MADE FOR THIS CUTTING.
8. POLICE DETAILS FOR TRAFFIC CONTROL WILL BE PAID FOR DIRECTLY BY THE TOWN THROUGH THE CONTRACT. THE CONTRACTOR SHALL COORDINATE ALL DETAIL ASSIGNMENTS AND ALL COSTS INCLUDING COORDINATION SHALL BE INCLUDED UNDER ALL ITEMS IN THE CONTRACT.
9. THE CONTRACTOR SHALL LOAM & SEED ALL DISTURBED AREAS.
10. THE CONTRACTOR SHALL PROVIDE GENERAL CLEAN–UP TO THE ENTIRE PROJECT SITE. INCLUDE PAYMENT UND APPROPRIATE ITEM.
11. ALL CASTINGS, GATE BOXES, ETC. DAMAGED DURING CONSTRUCTION SHALL BE SUPPLIED AND REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT. THE CONTRACTOR SHALL INCLUDE THE COST IN ALL BID ITEMS.
12. THE CONTRACTOR SHALL FURNISH AND INSTALL OR REMOVE AND REPLACE SIGNS AS REQUIRED TO PERFORM THE PROPOSED WORK. PAYMENT TO BE INCLUDED UNDER MISCELLANEOUS WORK ITEM.
13. THE CONTRACTOR SHALL BE PAID FOR WORK REQUIRED TO SUPPORT OR REMOVE AND REPLACE EXISTING STRUCTURES AND UTILITY LINES ADJACENT TO OR WITHIN THE LIMITS OF TRENCH EXCAVATION UNDER THE MISCELLANEOUS WORK ITEM.
14. THE CONTRACTOR SHALL MAINTAIN ONE LANE OF TRAFFIC ON THE STREET AT ALL TIMES DURING THE CONSTRUCTION, AND SHALL MAINTAIN ACCESS TO ALL ABUTTING DRIVEWAYS AND ACCESS WAYS.
15. THE CONTRACTOR SHALL SAWCUT ALL PRIVATE DRIVEWAYS AND SIDEWALKS TO ALLOW FOR PROPER SLOPES AND TRANSITIONS TO THE PROPOSED FINISHED SURFACE AS NECESSARY. THE CONTRACTOR SHALL MATCH THE EXISTING MATERIAL AND TYPE. ALL WORK SHALL BE INCLUDED UNDER THE APPROPRIATE ITEM.
16. THE CONTRACTOR SHALL EXCAVATE TEST PITS ALONG THE ALIGNMENT OF THE PROPOSED DRAINAGE AND WATER SYSTEM TO LOCATE THE EXISTING SEWER, WATER AND GAS MAINS AND SERVICES AS REQUIRED BY THE ENGINEER AND PRIOR TO ORDERING THE DRAINAGE AND WATER SYSTEM AND COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL PLAN AND PERFORM TEST PIT EXCAVATION WELL IN ADVANCE OF COMMENCING CONSTRUCTION TO ALLOW TIME TO REVIEW ACTUAL CONDITIONS ENCOUNTERED. TEST PITS NOT SPECIFICALLY IDENTIFIED SHALL BE EXCAVATED BY THE CONTRACTOR AT THE DIRECTION OF THE ENGINEER. INCLUDE FOR PAYMENT UNDER THE UNCLASSIFIED EXCAVATION ITEM.
17. OIL/SEDIMENT TRAP "ELIMINATOR" OR EQUAL TO BE INSTALLED ON ALL PROPOSED CATCH BASINS.
18. "ULTRA–HYDROKLEEN FILTRATION SYSTEM" OR EQUAL INSERT TO BE INSTALLED IN PROPOSED DOUBLE CATCH BASINS 1 AND 2 AND CATCH BASINS 3 AND 4. SEE SHEET 11 OF 13 FOR DETAIL.

WATER SYSTEM NOTES

1.) LOCATION OF PROPOSED WATER MAINS AND APPURTENANCES MAY BE ALTERED IN THE FIELD BY THE ENGINEER TO SUIT FIELD CONDITIONS.

2.) THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING WATER SERVICES SHOWN ON THE PLAN AND BE RESPONSIBLE FOR LOCATING ANY ADDITIONAL SERVICES NOT SHOWN.

3.) EXISTING WATER SERVICE REPLACEMENT SHALL BE DONE ONCE THE PROPOSED WATER MAIN IS TESTED AND DISINFECTED..

5.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL AFFECTED WATER CUSTOMERS, IN WRITING, OF SHUTTING OFF SERVICE AT LEAST TWO DAYS PRIOR TO SHUTDOWN. NOTICE CARDS WILL BE FURNISHED BY THE CONTRACTOR WHICH WILL INCLUDE THE HOURS OF SHUTDOWN AND NOTE THAT A TEMPORARY RUSTY WATER CONDITION MAY EXIST. NOTICE CARDS WILL ALSO HAVE SPACE FOR THE CONTRACTOR TO FILL IN THE SPECIFIC DATES FOR EACH SHUTDOWN. THE WORK SHALL BE SCHEDULED IN SECTIONS, AS APPROVED BY THE ENGINEER, AS IT IS NECESSARY TO ALLOW FOR COMPLETION OF THE WORK AND RESTORATION OF SERVICE TO THE CUSTOMER WITHIN THE TIMES SPECIFIED BY THE ENGINEER.

7.) PROPOSED FITTINGS AND VALVES SHALL BE RESTRAINED BY MJ RESTRAINTS (MEGALUG OR EQUAL).

8.) PROPOSED CORPORATION COCKS, CURB STOPS AND COPPER TUBING FOR EACH HOUSE SERVICE SHALL BE "LEAD FREE" AND A MINIMUM OF ¾" INCH IN SIZE AND ACCORDING TO THE FOLLOWING LIST AS NOTED OR AS DIRECTED BY THE ENGINEER.

320 MAIN ST –	2" DIAMETER WATER SERVICE
68 AKIN ST –	¾" DIAMETER WATER SERVICE
71 AKIN ST –	¾" DIAMETER WATER SERVICE
73 AKIN ST –	¾" DIAMETER WATER SERVICE
78 AKIN ST –	¾" DIAMETER WATER SERVICE
79 AKIN ST –	¾" DIAMETER WATER SERVICE
81 AKIN ST –	¾" DIAMETER WATER SERVICE
86 AKIN ST –	¾" DIAMETER WATER SERVICE
89 AKIN ST –	¾" DIAMETER WATER SERVICE
11 STONE ST–	1" DIAMETER WATER SERVICE
16 STONE ST –	1" DIAMETER WATER SERVICE
20/23 STONE ST –	1" DIAMETER WATER SERVICE

9.) UNLESS OTHERWISE NOTED, THE PROPOSED WATER MAIN SHALL BE INSTALLED WITH A MINIMUM GROUND COVER OF FIVE FEET.

10.) PROPOSED WATER PIPE SHALL BE CEMENT LINED DUCTILE IRON (C.L.D.I.), CLASS 52.

11.) THE EXISTING WATER SYSTEM SHALL BE ABANDONED BY CLOSING VALVES, REMOVING VALVE BOXES AND HYDRANTS, CAPPING ALL OPEN PIPE ENDS, REMOVING THE TEMPORARY COUPLINGS AND CONNECTIONS UPON ACTIVATION OF THE PROPOSED WATER SYSTEM.

12.) ANY EXISTING WATER PIPE REMOVED SHALL BE DISPOSED OF BY THE CONTRACTOR. THE COST FOR THIS WORK SHALL BE INCLUDED IN THE PRICE OF THE ASSOCIATED PIPE ITEM

13.) ALL EXISTING VALVES AND HYDRANTS REMOVED FROM THE WORK SHALL BE DELIVERED TO THE FAIRHAVEN DPW YARD BY THE CONTRACTOR OR DISPOSED OF BY THE CONTRACTOR AS DETERMINED BY THE ENGINEER IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

14.) ALL EXISTING VALVE BOXES, FRAMES AND COVERS REMOVED FROM THE WORK SHALL BE DELIVERED TO THE FAIRHAVEN DPW GARAGE BY THE CONTRACTOR OR DISPOSED OF BY THE CONTRACTOR AS DETERMINED BY THE ENGINEER.

15.) THE TOWN OF FAIRHAVEN SHALL OPERATE ALL WATER VALVES. TO FACILITATE WORK IN THIS CONTRACT IT IS UNDERSTOOD THAT NUMEROUS VALVES WILL NEED TO BE OPERATED. PRIOR TO OPERATING ANY VALVE THE CONTRACTOR SHALL NOTIFY THE FAIRHAVEN WATER DEPARTMENT AND SHALL HAVE THE ENGINEER PRESENT.

16.) THE EXISTING WATER MAINS ON ALL STREETS IN THE PROJECT ARE ASSUMED TO BE ASBESTOS CEMENT UNLESS OTHERWISE NOTED.CUTTING OR CAPPING THAT REQUIRES REMOVAL OF AC PIPE SHALL BE PERFORMED IN CONFORMANCE WITH STATE REGULATIONS AND PAID FOR UNDER THE ASSOCIATED ITEM. ABANDONED MAINS SHALL BE CAPPED IN PLACE WITH DI FITTINGS, WITH TRANSITION GASKETS, AND CONCRETE.

CONSTRUCTION SEQUENCE

1.) FARMFIELD STREET AND HARBOR VIEW AVENUE:

SPRING 2022 – INSTALL EROSION CONTROL MEASURES AND INSPECTION APPROVAL FROM LOCAL CONSERVATION AGENT TO BEGIN CONSTRUCTION, INSTALL/TEST TEMPORARY WATER BYPASS THEN BEGIN UTILITY WORK, INSTALL 2" TEMPORARY TRENCH PAVEMENT TO STABILIZE TRENCHES IF REQUIRED, EXCAVATE ROADWAY, GRAVEL BACKFILL/FINE GRADE ROADWAY AND INSTALL 2–1/2" HMA BASE COURSE PAVEMENT WITH MONOLITHIC BERM.

FALL OF 2022 – STRAIGHT CUT AND INSTALL ALL EXISTING JOINTS (DRIVEWAYS AND ROADS) IN PREPARATION OF THE FINAL PAVEMENT, ADJUST ALL CASTINGS TO FINAL GRADE AND INSTALL 1–1/2" TOP COURSE PAVING WITH MONOLITHIC BERM SAND AND SEAL ALL JOINTS, LOAM AND SEED, BERM AND FINAL CLEANUP.

2.) AKIN STREET:

SPRING 2022 –INSTALL TAPPING SLEEVE AND VALVE AND WATER MAIN ON HUTTLESTON AVENUE, INSTALL CONTROLLED DENSITY BACKFILL AND 7" THICKNESS PERMANENT TRENCH PAVEMENT IN STATE LAYOUT, SAND AND SEAL ALL PAVEMENT JOINTS.

SPRING 2022 –INSTALL PROPOSED WATER SYSTEM ON AKIN STREET, ABANDON EXISTING WATER SYSTEM, RECLAIM AND GRADE COMPACTED 12" RECLAIM GRAVEL BASE, INSTALL 2 1/2" THICKNESS HMA BASE COURSE PAVEMENT ON AKIN STREET.

FALL OF 2022 – STRAIGHT CUT AT ALL EXISTING JOINTS (DRIVEWAYS AND ROADS) IN PREPARATION OF THE FINAL PAVEMENT, ADJUST ALL CASTINGS TO FINAL GRADE AND INSTALL 1–1/2" TOP COURSE PAVING WITH MONOLITHIC BERM, SAND AND SEAL ALL JOINTS, LOAM AND SEED DISTURBED AREAS AND FINAL CLEANUP.

FARMFIELD STREET & HARBOR VIEW AVENUE TEMPORARY WATER BYPASS PIPING NOTES

1. THE TEMPORARY WATER BYPASS SYSTEM SHALL BE INSTALLED ON FARMFIELD STREET AND HARBOR VIEW AVENUE PRIOR TO INSTALLING THE PROPOSED SEWER, WATER AND DRAINAGE SYSTEMS.
2. THE WATER SYSTEM SHALL BE REPLACED ON AKIN STREET WITHOUT A TEMPORARY WATER BYPASS.
3. BYPASS MAIN LINES MAY BE INSTALLED AT MAX. LENGTH OF 4000 FEET. BYPASS MAIN LINES SHALL HAVE A SHUTOFF VALVE PLACED AT A MAX. DISTANCE OF 500 FEET. SERVICE CONNECTION TEES SHALL BE PLACED ALONG TEMPORARY BYPASS MAINLINE AS IT IS INSTALLED.
4. PERMANENT BITUMINOUS TRENCH PAVEMENT AND RESTORATIVE REPAIRS SHALL BE COMPLETED AT THE END.
5. TEMPORARY SERVICE CONNECTIONS SHALL BE CONNECTED AT THE RIGHT–OF–WAY BY EXCAVATION TO SERVICE(S) AND CONNECTING TO EXISTING PIPE. ALL FITTINGS, MATERIAL AND LABOR SHALL BE INCLUDED UNDER THE APPROPRIATE ITEM
6. PRIOR TO STARTING ANY WORK THAT WILL AFFECT SERVICE TO CUSTOMERS, THE CONTRACTOR SHALL NOTIFY THE CITY, THE ENGINEER AND THE CUSTOMERS 72 HOURS PRIOR TO SHUTDOWN. NOTICE INFORMATION SHALL, AT A MINIMUM, INCLUDE THE DATES AND HOURS OF SHUTDOWN AND NOTE THAT A TEMPORARY RUSTY WATER CONDITION MAY EXIST.
7. FINAL TEMPORARY BYPASS PIPING PLAN SHALL BE DESIGNED BY THE CONTRACTOR, INCLUDING LAYOUT OF THE BYPASS PIPING, TEMPORARY SERVICE LINES TO ALL CUSTOMERS, THE SPECIFIED BYPASS PIPE DIAMETER TO BE USED IN EACH LOCATION, AND THE TYPE AND LOCATION OF TEMPORARY FIRE HYDRANTS. THE BYPASS PIPING, SHALL BE 4" OR 6" AS REQUIRED. PAYMENT FOR FURNISHING, INSTALLING, AND MAINTAINING AND REMOVING BYPASS PIPING WILL BE PAID FOR UNDER TEMPORARY BYPASS PIPING ITEMS.
8. THREE COPIES OF PROPOSED PLANS FOR THE DESIGN OF THE TEMPORARY WATER BYPASS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL AT THE PRE–CONSTRUCTION MEETING. THE ENGINEER SHALL MAKE THE FINAL DECISION AS TO THE ROUTING AND SIZES OF ALL BYPASS LINES, BEFORE ANY BYPASS IS INSTALLED.
9. AT ALL ROADWAY CROSSING, CURB CUT DRIVEWAY LOCATIONS AND ENTRANCES TO PARKING AREAS, THE TEMPORARY BYPASS WATER PIPING SHALL BE PLACED BELOW PAVING GRADE AND COVERED. THE BYPASS PIPING MAY BE LAID ABOVE GROUND IN UNPAVED LOCATIONS WHICH DO NOT SUSTAIN VEHICLE TRAFFIC.
10. THE TEMPORARY BYPASS PIPING SHALL BE INSTALLED, TESTED AND APPROVED PRIOR TO THE REMOVAL OF THE EXISTING WATER MAIN AND THE INSTALLATION OF THE PROPOSED WATER MAIN.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL AFFECTED WATER CUSTOMERS, IN WRITING, OF SHUTTING OFF SERVICE AT LEAST 72 HOURS PRIOR TO SHUTDOWN. NOTICE CARDS WILL BE FURNISHED BY THE CONTRACTOR WHICH WILL INCLUDE THE HOURS OF SHUTDOWN AND NOTE THAT A TEMPORARY RUSTY WATER CONDITION MAY EXIST. NOTICE CARDS WILL ALSO HAVE SPACE FOR THE CONTRACTOR TO FILL IN THE SPECIFIC DATES FOR EACH SHUTDOWN. THE WORK SHALL BE SCHEDULED IN SECTIONS, AS APPROVED BY THE ENGINEER, AS IT IS NECESSARY TO ALLOW FOR COMPLETION OF THE WORK AND RESTORATION OF SERVICE TO THE CUSTOMER WITHIN THE TIMES SPECIFIED BY THE ENGINEER.
12. CONTRACTOR SHALL PLACE AND MAINTAIN ALL BARRELS, CONES AND SAFETY DEVICES TO PROTECT THE BYPASS.

TRENCH PAVING NOTES

1. TRENCHES MAY BE COVERED WITH STEEL PLATES OVERNIGHT WITH APPROVAL FROM THE TOWN OF FAIRHAVEN OR ENGINEER. STEEL PLATES MAY NOT BE LEFT OVER THE WEEKEND.
2. CONTROLLED DENSITY FILL (FLOW FILL) SHALL BE INSTALLED IN THE WATER TRENCH WITHIN THE STATE LAYOUT WITHIN THE LIMITS AS SHOWN ON THE PLANS AND AS SPECIFIED/REQUIRED IN THE MASSDOT ACCESS PERMIT IN SECTION 00821 OF THE SPECIFICATIONS..
3. PERMANENT TRENCH PAVEMENT WITHIN THE STATE RIGHT–OF–WAY SHALL BE 7" MINIMUM THICKNESS. SEE DETAIL SHEET 7 AND MASSDOT ACCESS PERMIT.
4. PERMANENT TRENCH PAVEMENT WITHIN THE STATE RIGHT–OF–WAY SHALL BE INFRARED TREATED AFTER THE 90 DAY SETTLEMENT PERIOD. THE MILLING AND 2" PAVING WAS WAVED BY MASSDOT AND IS NOT REQUIRED. SEE MASSDOT ACCESS PERMIT.
5. ALL TRENCHES IN EXISTING PAVEMENT ARE TO BE SAW CUT WHERE THE PROPOSED PAVEMENT SHALL MEET TO ALLOW A SMOOTH TRANSITION AFTER PAVING. NO OTHER METHOD OF CUTTING IS ACCEPTABLE. ALL JOINTS SHALL BE SANDED AND SEALED.
6. ALL TRENCHES SHALL BE MECHANICALLY COMPACTED TO 95% COMPACTION.
7. THE CONTRACTOR SHALL REMOVE AND REPLACE ALL PAVEMENT DAMAGED DURING THE INSTALLATION OF THE PROPOSED UTILITY.
8. THE CONTRACTOR SHALL TEMPORARILY AND PERMANENTLY RE–STRIPE EXISTING PAVEMENT MARKINGS AS NECESSARY.

Michael J. Carter

MICHAEL J. CARTER
CIVIL
No. 35907

4/6/2022

TOWN OF FAIRHAVEN, MASSACHUSETTS
ROADWAY IMPROVEMENT PROJECT

CONSTRUCTION NOTES

GCG ASSOCIATES, INC.
WILMINGTON MASSACHUSETTS

SCALE: AS NOTED
DATE: FEBRUARY 9, 2022

JOB NO.\FILE NAME: 1841.dwg
DESIGNED BY: L.P.B.
DRAWN BY: L.P.B.
CHECKED BY: M.J.C.
PLAN NO. 2 OF 13

TIDAL INFORMATION:
MEAN HIGH WATER LINE = 1.73'
HIGH TIDE LINE = 3.16'
MEAN LOW WATER LINE = −1.65'
*INFORMATION OBTAINED FROM BUZZARDS BAY NATIONAL ESTUARY PROGRAM WEBSITE.
GEOID REFERENCED: LAT: 41.626106 LONG: −70.89212

FARMFIELD & HARBOR VIEW PLAN
HORIZONTAL SCALE: 1"=20'

NOTE:

THIS PROJECT IS LOCATED IN A SPECIAL FLOOD HAZARD AREA ZONE VE WITH BASE FLOOD ELEVATION OF 15.0 FEET.

TOWN OF FAIRHAVEN, MASSACHUSETTS
ROADWAY IMPROVEMENT PROJECT

FARMFIELD STREET &
HARBOR VIEW AVENUE
EXISTING CONDITIONS PLAN

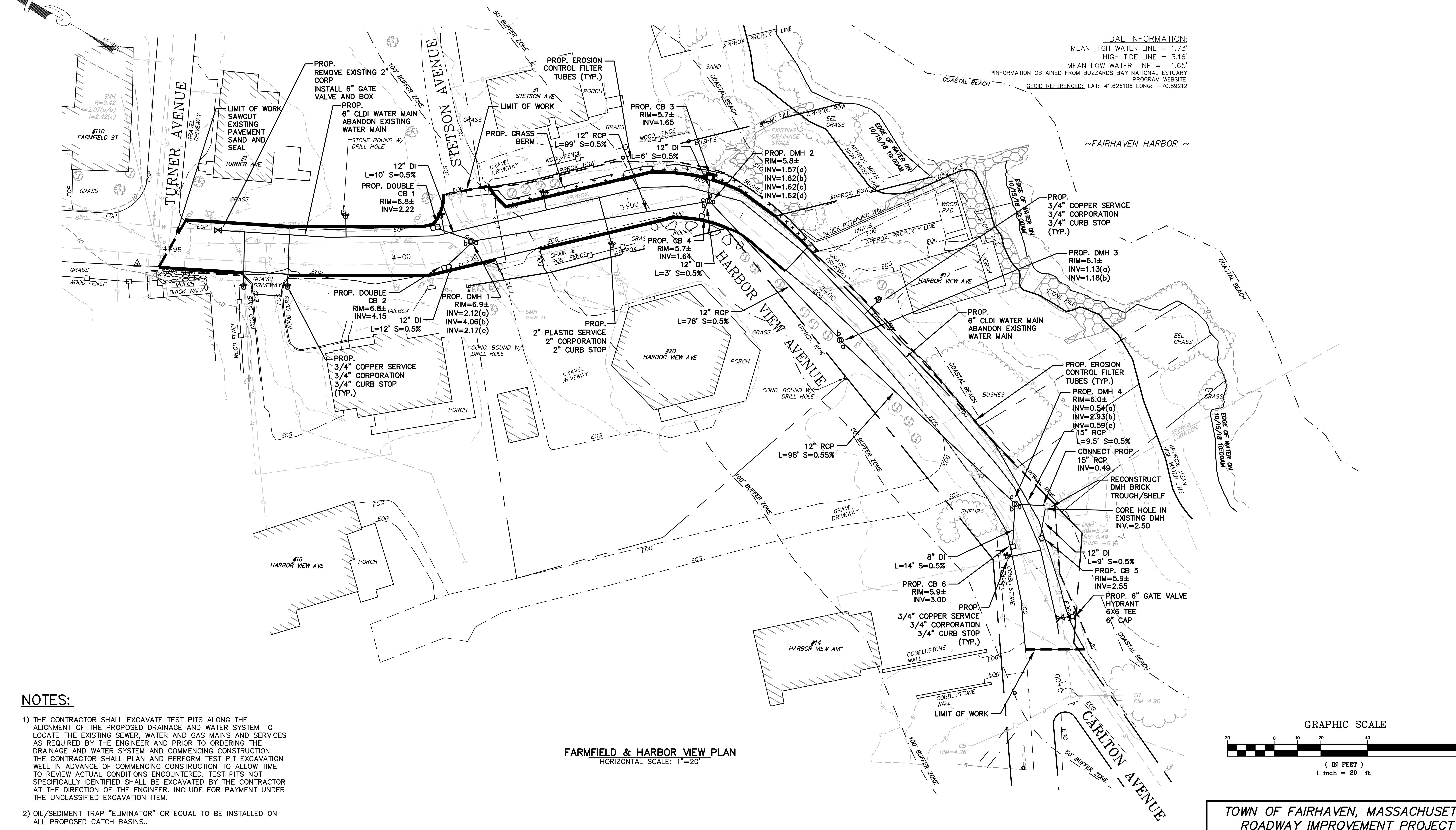
Michael J. Carter
MICHAEL J. CARTER
CIVIL
No. 35907
4/6/2022

GCG ASSOCIATES, INC.
WILMINGTON MASSACHUSETTS

SCALE: 1"=20' DATE: FEBRUARY 9, 2022

JOB NO.\FILE NAME:		PLAN NO.
1841.DWG	DESIGNED BY: L.P.B. DRAWN BY: L.P.B. CHECKED BY: M.J.C.	3 OF 13

FARMFIELD STREET


TURNER AVENUE
STETSON AVENUE
HARBOR VIEW AVENUE
CARLTON AVENUE
~FAIRHAVEN HARBOR ~
#110 FARMFIELD ST
#1 TURNER AVE
#1 STETSON AVE
#20 HARBOR VIEW AVE
#17 HARBOR VIEW AVE
#16 HARBOR VIEW AVE
#14 HARBOR VIEW AVE
50' BUFFER ZONE
100' BUFFER ZONE
COASTAL BEACH
EEL GRASS
EDGE OF WATER ON 10/15/18 10:00AM
APPROX. MEAN HIGH WATER LINE
APPROX. PROPERTY LINE
APPROX. ROW
STONE PILE
BLOCK RETAINING WALL
EXISTING DRAINAGE SWALE
LIMIT OF WORK SAWCUT EXISTING PAVEMENT SAND AND SEAL
PROP. REMOVE EXISTING 2" CORP INSTALL 6" GATE VALVE AND BOX
PROP. 6" CLDI WATER MAIN ABANDON EXISTING WATER MAIN
STONE BOUND W/ DRILL HOLE
LIMIT OF WORK
PROP. GRASS BERM
PROP. EROSION CONTROL FILTER TUBES (TYP.)
12" RCP L=99' S=0.5%
PROP. CB 3 RIM=5.7± INV=1.65
12" DI L=6' S=0.5%
PROP. DMH 2 RIM=5.8± INV=1.57(a) INV=1.62(b) INV=1.62(c) INV=1.62(d)
12" DI L=10' S=0.5%
PROP. DOUBLE CB 1 RIM=6.8± INV=2.22
PROP. CB 4 RIM=5.7± INV=1.64
12" DI L=3' S=0.5%
PROP. 3/4" COPPER SERVICE 3/4" CORPORATION 3/4" CURB STOP (TYP.)
PROP. DMH 3 RIM=6.1± INV=1.13(a) INV=1.18(b)
PROP. DOUBLE CB 2 RIM=6.8± INV=4.15
12" DI L=12' S=0.5%
PROP. DMH 1 RIM=6.9± INV=2.12(a) INV=4.06(b) INV=2.17(c)
PROP. 2" PLASTIC SERVICE 2" CORPORATION 2" CURB STOP
12" RCP L=78' S=0.5%
CONC. BOUND W/ DRILL HOLE
PROP. 6" CLDI WATER MAIN ABANDON EXISTING WATER MAIN
PROP. EROSION CONTROL FILTER TUBES (TYP.)
PROP. DMH 4 RIM=6.0± INV=0.54(a) INV=2.93(b) INV=0.59(c)
15" RCP L=9.5' S=0.5%
CONNECT PROP. 15" RCP INV=0.49
RECONSTRUCT DMH BRICK TROUGH/SHELF
CORE HOLE IN EXISTING DMH INV.=2.50
12" RCP L=98' S=0.55%
12" DI L=9' S=0.5%
PROP. CB 5 RIM=5.9± INV=2.55
8" DI L=14' S=0.5%
PROP. CB 6 RIM=5.9± INV=3.00
PROP. 6" GATE VALVE HYDRANT 6X6 TEE 6" CAP
PROP. 3/4" COPPER SERVICE 3/4" CORPORATION 3/4" CURB STOP (TYP.)
LIMIT OF WORK
COBBLESTONE WALL
3+00
4+00
4+98
2+00
1+00
0+00
GRASS
GRAVEL DRIVEWAY
WOOD FENCE
CHAIN & POST FENCE
MULCH
BRICK WALK
WOOD CURB
PORCH
SAND
BUSHES
ROCKS
SHRUB
WOOD PAD
EOG
EOP

TIDAL INFORMATION:
MEAN HIGH WATER LINE = 1.73'
HIGH TIDE LINE = 3.16'
MEAN LOW WATER LINE = −1.65'
*INFORMATION OBTAINED FROM BUZZARDS BAY NATIONAL ESTUARY PROGRAM WEBSITE.
GEOID REFERENCED: LAT: 41.626106 LONG: −70.89212

FARMFIELD & HARBOR VIEW PLAN
HORIZONTAL SCALE: 1"=20'

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

NOTES:

1) THE CONTRACTOR SHALL EXCAVATE TEST PITS ALONG THE ALIGNMENT OF THE PROPOSED DRAINAGE AND WATER SYSTEM TO LOCATE THE EXISTING SEWER, WATER AND GAS MAINS AND SERVICES AS REQUIRED BY THE ENGINEER AND PRIOR TO ORDERING THE DRAINAGE AND WATER SYSTEM AND COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL PLAN AND PERFORM TEST PIT EXCAVATION WELL IN ADVANCE OF COMMENCING CONSTRUCTION TO ALLOW TIME TO REVIEW ACTUAL CONDITIONS ENCOUNTERED. TEST PITS NOT SPECIFICALLY IDENTIFIED SHALL BE EXCAVATED BY THE CONTRACTOR AT THE DIRECTION OF THE ENGINEER. INCLUDE FOR PAYMENT UNDER THE UNCLASSIFIED EXCAVATION ITEM.

2) OIL/SEDIMENT TRAP "ELIMINATOR" OR EQUAL TO BE INSTALLED ON ALL PROPOSED CATCH BASINS..

3) "ULTRA-HYDROKLEEN FILTRATION SYSTEM" OR EQUAL INSERT TO BE INSTALLED IN PROPOSED DOUBLE CATCH BASINS 1 AND 2 AND CATCH BASINS 3 AND 4. SEE SHEET 11 OF 13 FOR DETAIL.

REV.	DATE	DESCRIPTION	BY
1	4/28/20	EXTEND PAVING AND BERMS ONTO HARBOR VIEW AV	JTC

Michael J. Carter
MICHAEL J. CARTER CIVIL No. 35907
4/6/2022

TOWN OF FAIRHAVEN, MASSACHUSETTS
ROADWAY IMPROVEMENT PROJECT

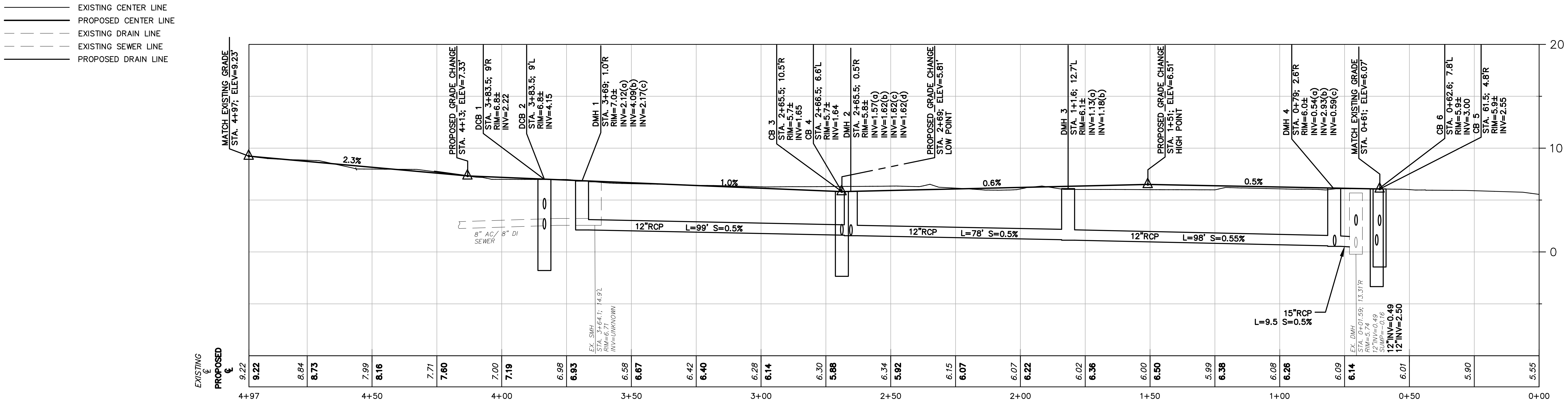
FARMFIELD STREET &
HARBOR VIEW AVENUE
PROPOSED PLAN

GCG ASSOCIATES, INC.
WILMINGTON MASSACHUSETTS

SCALE: 1"=20' DATE: FEBRUARY 9, 2022

JOB NO.\FILE NAME:		PLAN NO.
1841.DWG	DESIGNED BY: L.P.B. DRAWN BY: L.P.B. CHECKED BY: M.J.C.	4 OF 13

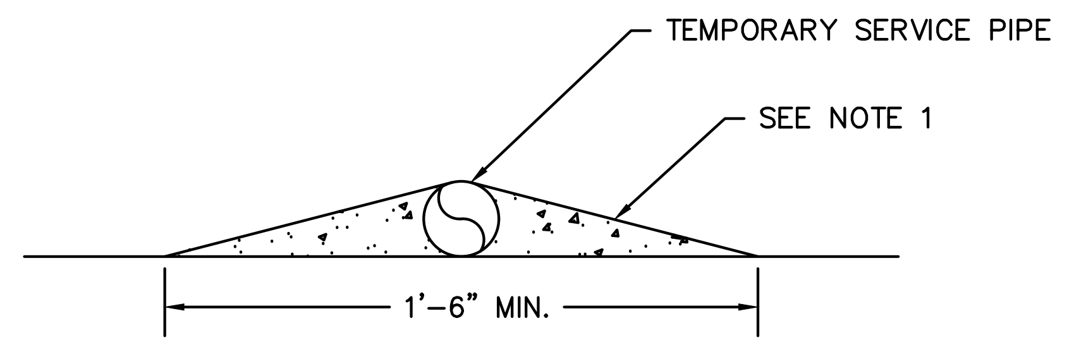
FARMFIELD STREET & HARBOR VIEW AVENUE PROFILE



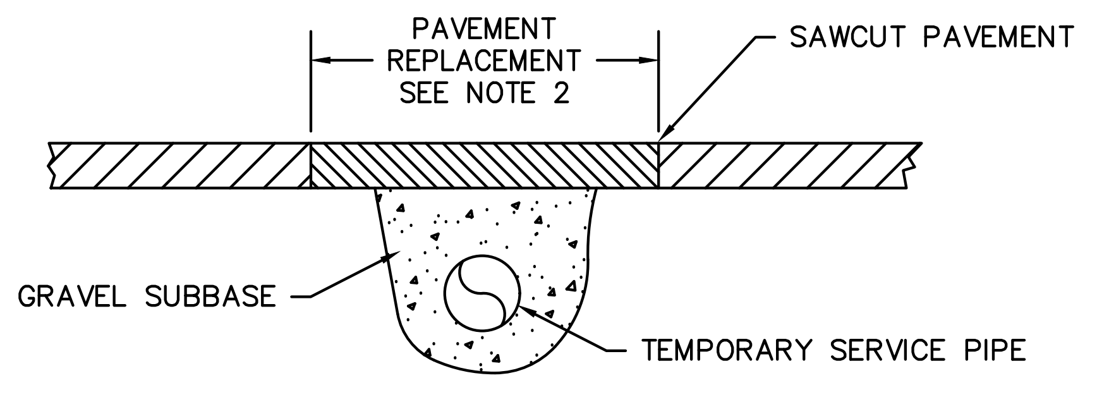
FARMFIELD & HARBOR VIEW PLAN
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

TEMPORARY BYPASS PIPING NOTES

1. PRIOR TO STARTING ANY WORK THAT WILL AFFECT SERVICE TO CUSTOMERS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE CUSTOMERS TWO DAYS PRIOR TO SHUTDOWN.
2. BUILDINGS TIED OFF OF MEMORIAL DRIVE WILL NEED TO BE CONNECTED TO THE TEMPORARY WATER BY-PASS. (25, 33, 43, 51, 55 AND 77 BRIDGE STREET)
3. TEMPORARY BYPASS PIPING PLAN SHALL BE DESIGNED BY THE CONTRACTOR, INCLUDING LAYOUT OF THE BYPASS PIPING, TEMPORARY SERVICE LINES TO ALL CUSTOMERS, THE SPECIFIED BYPASS PIPE DIAMETER TO BE USED IN EACH LOCATION, AND THE TYPE AND LOCATION OF TEMPORARY FIRE HYDRANTS. THE BYPASS PIPING, IN MOST CASES, WILL BE LAID ABOVE GROUND AND SHALL BE 2" AND 4" AS REQUIRED. PAYMENT FOR FURNISHING, INSTALLING, AND MAINTAINING AND REMOVING BYPASS PIPING WILL BE PAID FOR UNDER ITEM 2P.
4. THREE COPIES OF PROPOSED PLANS FOR THE DESIGN OF THE TEMPORARY WATER BYPASS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL AT THE PRE-CONSTRUCTION MEETING. THE ENGINEER SHALL MAKE THE FINAL DECISION AS TO THE ROUTING AND SIZES OF ALL BYPASS LINES, BEFORE ANY BYPASS IS INSTALLED.
5. THE TEMPORARY BYPASS PIPING SHALL BE INSTALLED, TESTED AND APPROVED PRIOR TO THE REMOVAL OF THE EXISTING WATER MAIN AND THE INSTALLATION OF THE PROPOSED WATER MAIN.
6. THE CONTRACTOR SHALL USE CRUSHER-RUN MATERIAL (3/4"-1/4" STONE MIXED WITH STONE DUST) AT ALL DRIVEWAYS TO RAMP OVER THE BYPASS PIPING. AT CROSS STREETS, PIPING SHALL BE PLACED BELOW PAVING GRADE AND COVERED.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL AFFECTED WATER CUSTOMERS, IN WRITING, OF SHUTTING OFF SERVICE AT LEAST TWO DAYS PRIOR TO SHUTDOWN. NOTICE CARDS WILL BE FURNISHED BY THE CONTRACTOR WHICH WILL INCLUDE THE HOURS OF SHUTDOWN AND NOTE THAT A TEMPORARY RUSTY WATER CONDITION MAY EXIST. NOTICE CARDS WILL ALSO HAVE SPACE FOR THE CONTRACTOR TO FILL IN THE SPECIFIC DATES FOR EACH SHUTDOWN. THE WORK SHALL BE SCHEDULED IN SECTIONS, AS APPROVED BY THE ENGINEER, AS IT IS NECESSARY TO ALLOW FOR COMPLETION OF THE WORK AND RESTORATION OF SERVICE TO THE CUSTOMER WITHIN THE TIMES SPECIFIED BY THE ENGINEER.



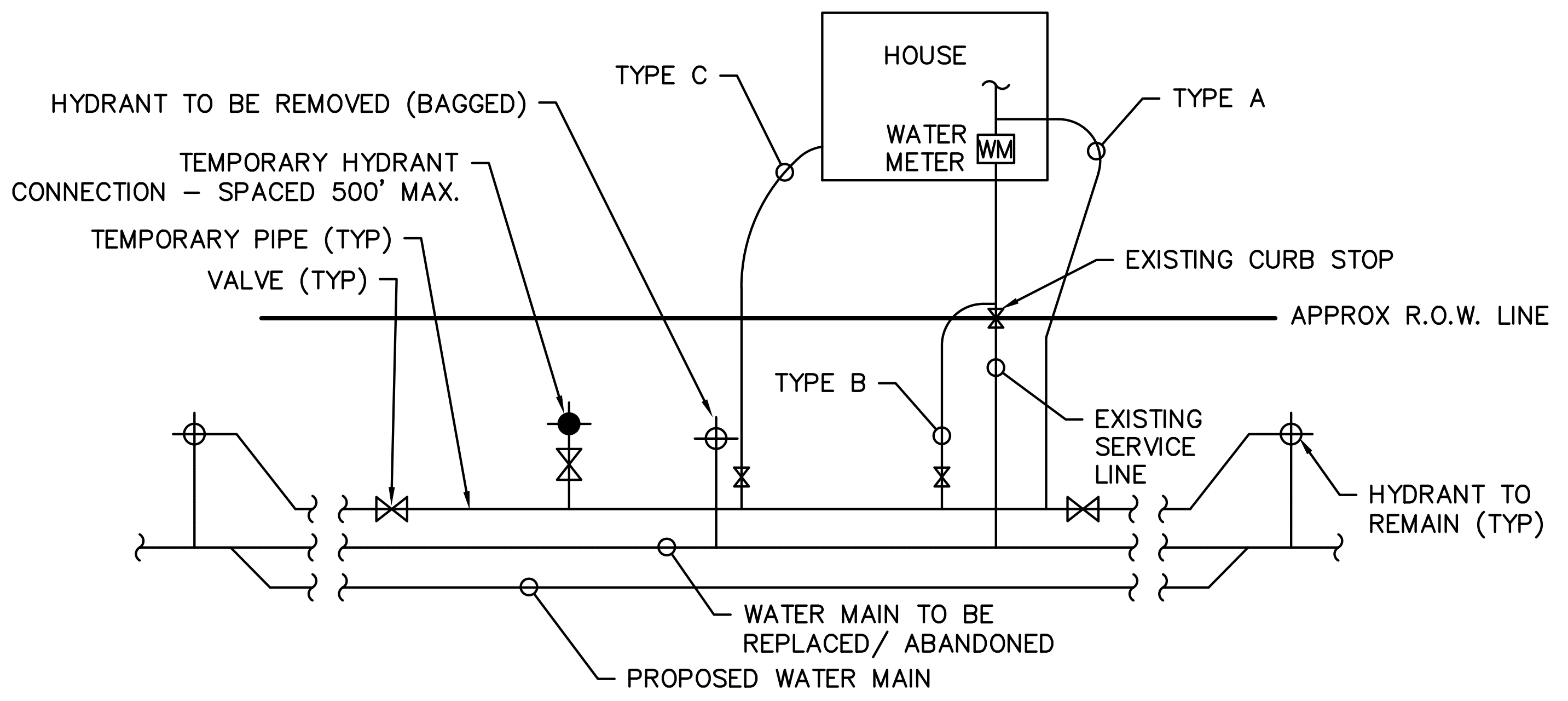
DRIVEWAY CROSSING



ROADWAY CROSSING

NOTES:
1. THE CONTRACTOR SHALL USE CRUSHER-RUN MATERIAL (3/4"-1/4" STONE MIXED WITH STONE DUST) AT ALL DRIVEWAYS TO RAMP OVER THE BYPASS PIPING.
2. AT CROSS STREETS, PIPING SHALL BE PLACED BELOW PAVING GRADE AND COVERED.

TEMPORARY SERVICE PIPE CROSSING DETAIL
N.T.S.



CONNECTION TYPE A - TEMPORARY SERVICE HOSE WITH METER REMOVED
CONNECTION TYPE B - TEMPORARY SERVICE HOSE AT EXISTING CURB STOP
CONNECTION TYPE C - TEMPORARY SERVICE HOSE AT OTHER SUITABLE LOCATION

TYPICAL TEMPORARY SERVICE PIPE DETAIL
N.T.S.

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

TOWN OF FAIRHAVEN, MASSACHUSETTS
ROADWAY IMPROVEMENT PROJECT

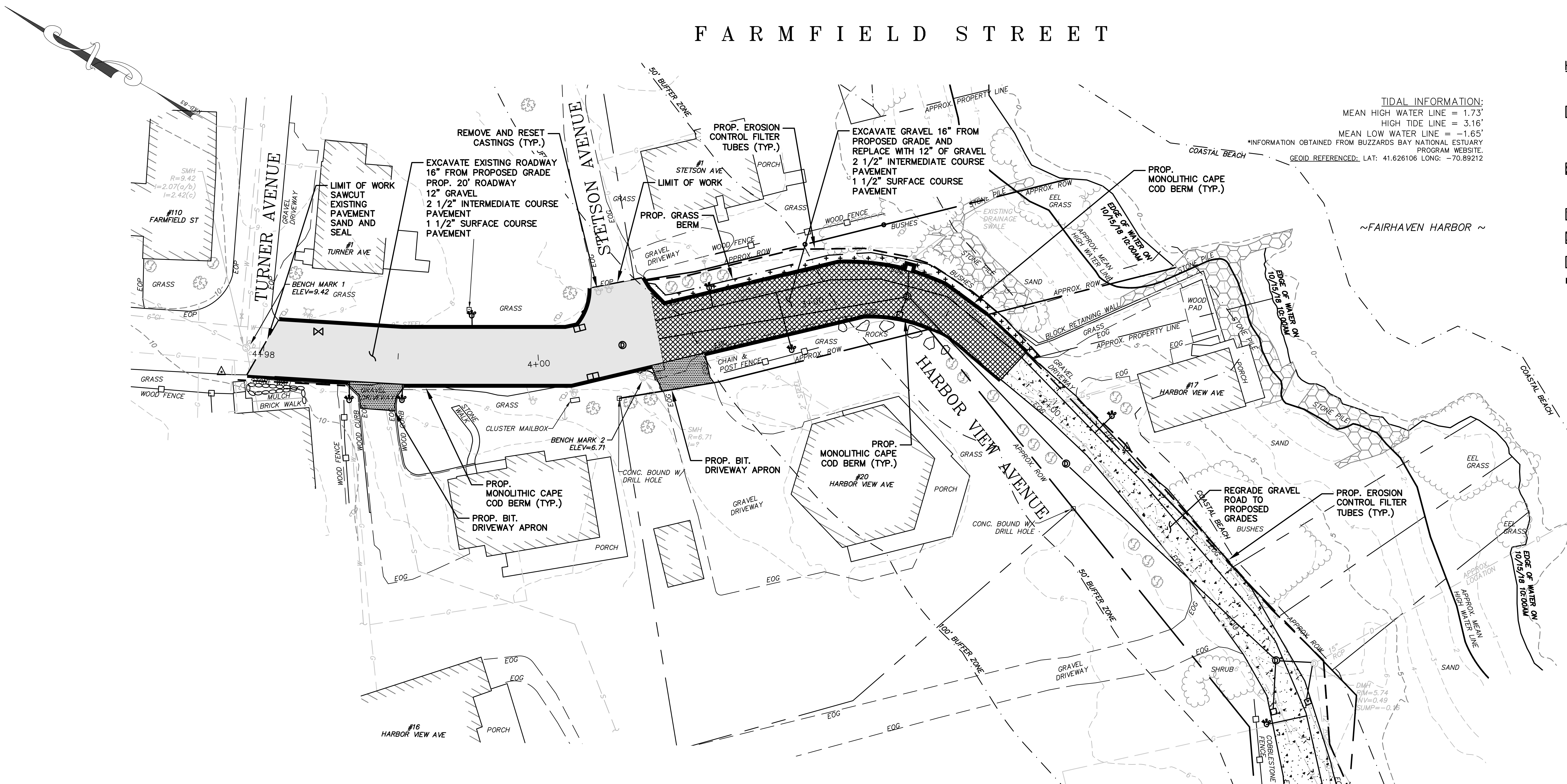
FARMFIELD STREET &
HARBOR VIEW AVENUE
PROPOSED PROFILE

Michael J. Carter
MICHAEL J. CARTER
CIVIL
No. 35907
4/6/2022

GCG ASSOCIATES, INC.
WILMINGTON MASSACHUSETTS

SCALE: 1"=20' DATE: FEBRUARY 9, 2022

JOB NO.\FILE NAME:	DESIGNED BY: L.P.B. DRAWN BY: L.P.B. CHECKED BY: M.J.C.	PLAN NO.
1841.DWG		5 OF 13


FARMFIELD STREET
TURNER AVENUE
SPETSON AVENUE
HARBOR VIEW AVENUE
CARLTON AVENUE
~FAIRHAVEN HARBOR ~
REMOVE AND RESET CASTINGS (TYP.)
EXCAVATE EXISTING ROADWAY 16" FROM PROPOSED GRADE PROP. 20' ROADWAY 12" GRAVEL 2 1/2" INTERMEDIATE COURSE PAVEMENT 1 1/2" SURFACE COURSE PAVEMENT
LIMIT OF WORK SAWCUT EXISTING PAVEMENT SAND AND SEAL
PROP. EROSION CONTROL FILTER TUBES (TYP.)
LIMIT OF WORK
PROP. GRASS BERM
EXCAVATE GRAVEL 16" FROM PROPOSED GRADE AND REPLACE WITH 12" OF GRAVEL 2 1/2" INTERMEDIATE COURSE PAVEMENT 1 1/2" SURFACE COURSE PAVEMENT
PROP. MONOLITHIC CAPE COD BERM (TYP.)
PROP. BIT. DRIVEWAY APRON
PROP. MONOLITHIC CAPE COD BERM (TYP.)
PROP. BIT. DRIVEWAY APRON
REGRADE GRAVEL ROAD TO PROPOSED GRADES
PROP. EROSION CONTROL FILTER TUBES (TYP.)
LIMIT OF WORK
BENCH MARK 1 ELEV=9.42
BENCH MARK 2 ELEV=6.71
#110 FARMFIELD ST
#1 TURNER AVE
#1 STETSON AVE
#20 HARBOR VIEW AVE
#17 HARBOR VIEW AVE
#16 HARBOR VIEW AVE
#14 HARBOR VIEW AVE
4+98
4+00
0+00
50' BUFFER ZONE
100' BUFFER ZONE
COASTAL BEACH
EDGE OF WATER ON 10/15/18 10:00AM
APPROX. MEAN HIGH WATER LINE
STONE PILE
EEL GRASS
SAND
CLUSTER MAILBOX
CHAIN & POST FENCE
WOOD FENCE
BLOCK RETAINING WALL
COBBLESTONE WALL
COBBLESTONE FENCE
CONC. BOUND W/ DRILL HOLE
GRAVEL DRIVEWAY
APPROX. ROW
APPROX. PROPERTY LINE
SMH R=9.42
SMH R=6.71
DMH RIM=5.74
CB RIM=4.90
CB RIM=4.26

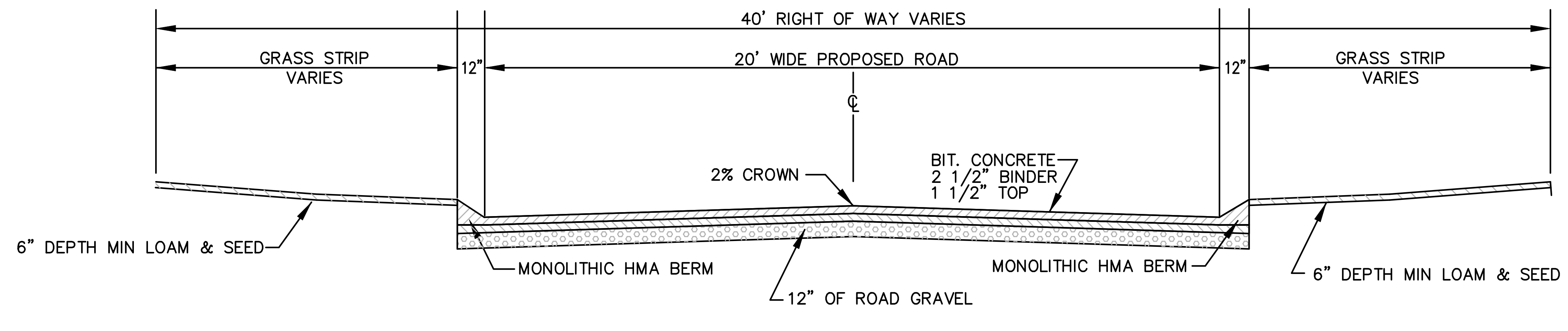
TIDAL INFORMATION:
MEAN HIGH WATER LINE = 1.73'
HIGH TIDE LINE = 3.16'
MEAN LOW WATER LINE = −1.65'
*INFORMATION OBTAINED FROM BUZZARDS BAY NATIONAL ESTUARY PROGRAM WEBSITE.
GEOID REFERENCED: LAT: 41.626106 LONG: −70.89212

HATCH LEGEND

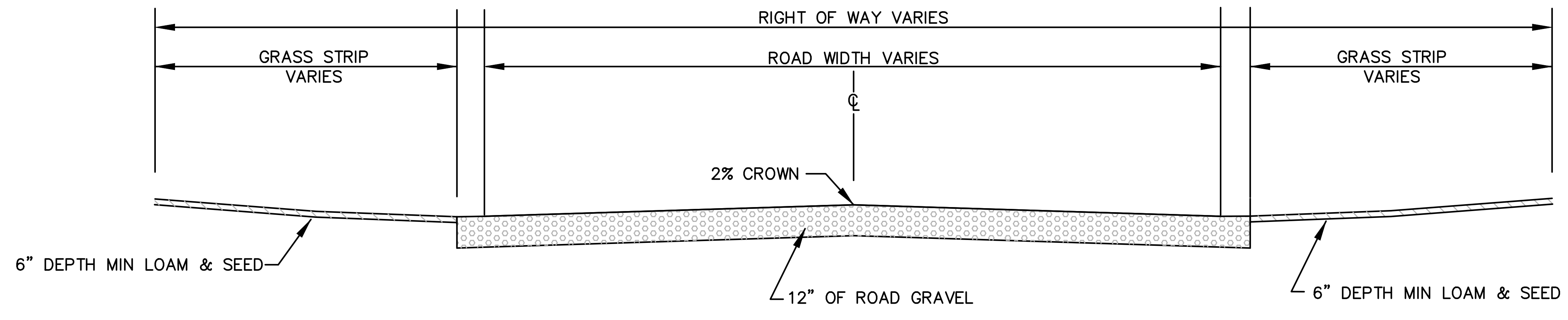
▭	EXCAVATE EXISTING PAVEMENT & GRAVEL BASE (16" TOTAL DEPTH FROM PROPOSED GRADE) 12" GRAVEL BASE 2 1/2" INTERMEDIATE COURSE 1 1/2" SURFACE COURSE
▩	EXCAVATE GRAVEL (16" DEPTH FROM PROPOSED GRADE) AND REPLACE WITH 12" GRAVEL 2 1/2" INTERMEDIATE COURSE 1 1/2" SURFACE COURSE
▒	REGRADE EXISTING GRAVEL TO PROPOSED GRADES
░	PROPOSED BIT. DRIVEWAY APRON
+	GRASS BERM
▬	MONOLITHIC CAPE COD BERM

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

FARMFIELD & HARBOR VIEW PLAN
HORIZONTAL SCALE: 1"=20'



TYPICAL PROPOSED CROSS SECTION OF FARMFIELD STREET ONTO HARBOR VIEW AVENUE
STA 2+20 TO STA 4+97
N.T.S.



TYPICAL PROPOSED CROSS SECTION OF HARBOR VIEW AVENUE
STA 0+12 TO STA 2+20
N.T.S.

REV.	DATE	DESCRIPTION	BY
1	4/28/20	EXTEND PAVING AND BERMS ONTO HARBOR VIEW AV	JTC

Michael J. Carter
MICHAEL J. CARTER CIVIL No. 35907
4/6/2022

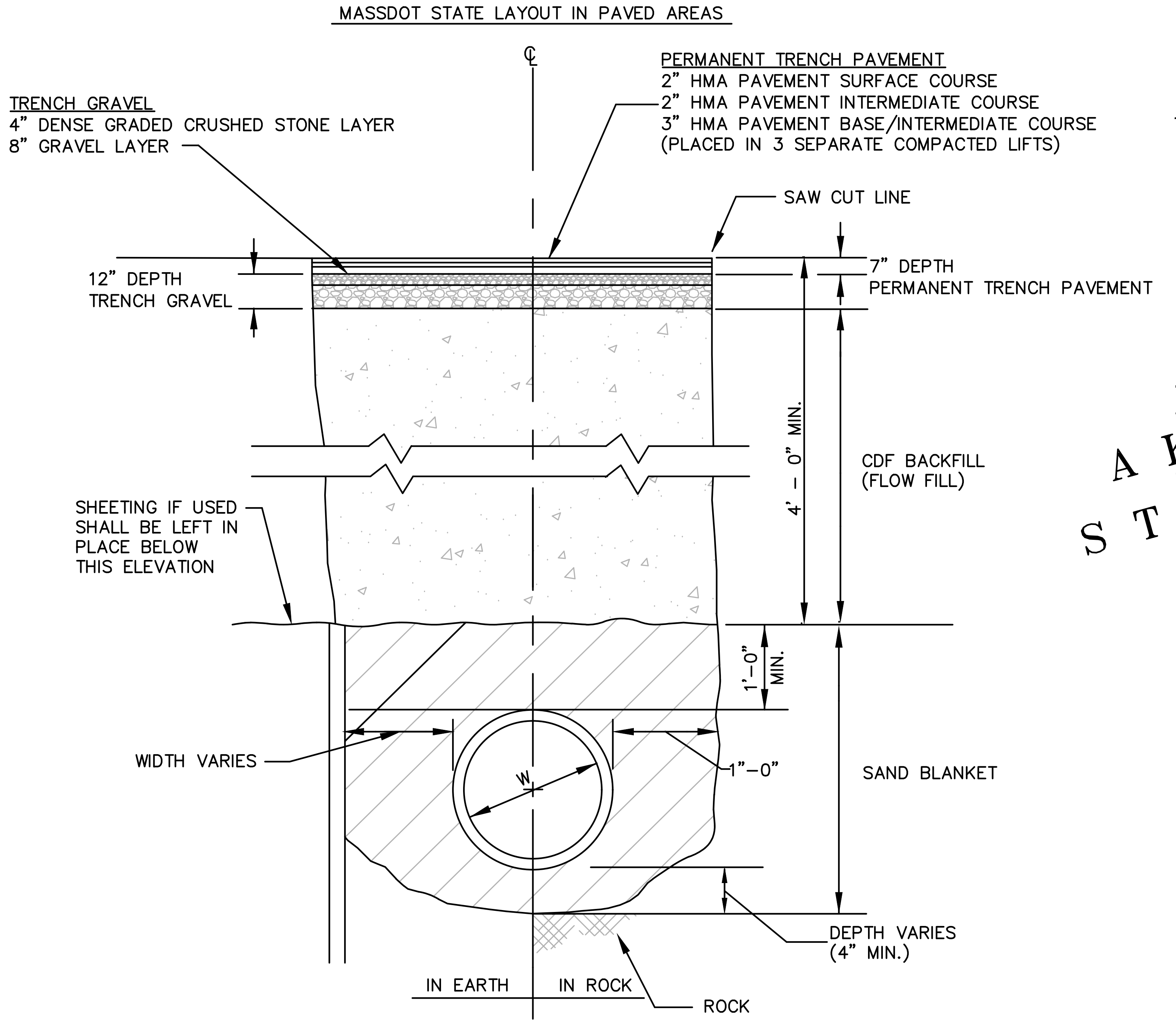
TOWN OF FAIRHAVEN, MASSACHUSETTS
ROADWAY IMPROVEMENT PROJECT

FARMFIELD STREET &
HARBOR VIEW AVENUE
PROPOSED SITE PLAN

GCG ASSOCIATES, INC.
WILMINGTON MASSACHUSETTS

SCALE: 1"=20'
DATE: FEBRUARY 9, 2022

JOB NO.\FILE NAME: 1841.DWG
DESIGNED BY: L.P.B.
DRAWN BY: L.P.B.
CHECKED BY: M.J.C.
PLAN NO. 6 OF 13

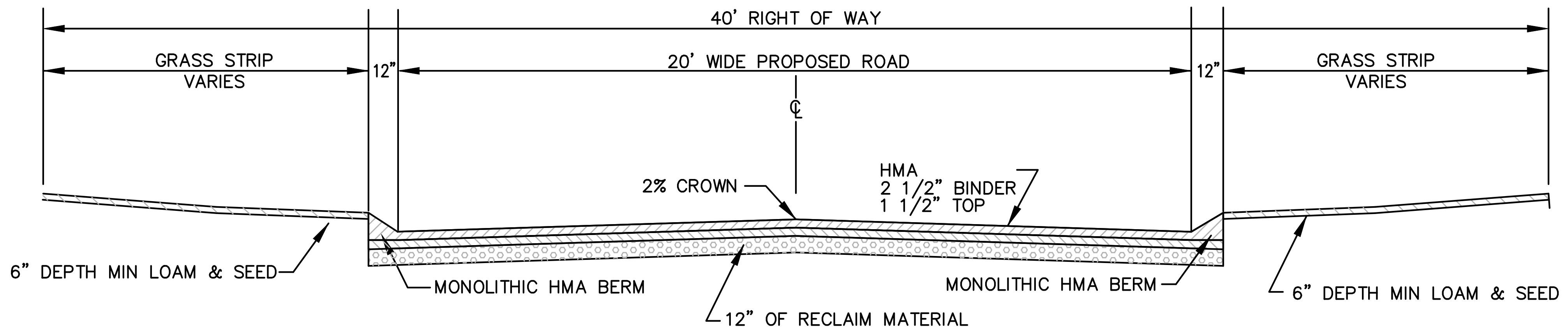

MASSDOT STATE LAYOUT IN PAVED AREAS
℄
PERMANENT TRENCH PAVEMENT
2" HMA PAVEMENT SURFACE COURSE
2" HMA PAVEMENT INTERMEDIATE COURSE
3" HMA PAVEMENT BASE/INTERMEDIATE COURSE (PLACED IN 3 SEPARATE COMPACTED LIFTS)
TRENCH GRAVEL
4" DENSE GRADED CRUSHED STONE LAYER
8" GRAVEL LAYER
SAW CUT LINE
12" DEPTH TRENCH GRAVEL
7" DEPTH PERMANENT TRENCH PAVEMENT
4' - 0" MIN.
CDF BACKFILL (FLOW FILL)
SHEETING IF USED SHALL BE LEFT IN PLACE BELOW THIS ELEVATION
1'-0" MIN.
WIDTH VARIES
W
1"-0"
SAND BLANKET
DEPTH VARIES (4" MIN.)
IN EARTH
IN ROCK
ROCK

TRENCH DETAIL NOTES: STATE LAYOUT WATER MAIN TRENCH

1. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL WORK WITHIN THE STATE HIGHWAY LAYOUT AS SPECIFIED IN THE MASSDOT ACCESS PERMIT INCLUDED IN SECTION 00821–"PERMITS" OF THE CONTRACT SPECIFICATIONS. THE CONTRACTOR SHALL BE PAID FOR THIS WORK UNDER LUMP SUM BID ITEM 7D – "MASSDOT ACCESS PERMIT WORK".
2. THE CONTRACTOR SHALL SHALL BE PAID TO FURNISH AND INSTALL THE WATER MAIN UNDER THE ASSOCIATED BID ITEM(S).

STATE HIGHWAY PERMANENT TRENCH DETAIL

NOT TO SCALE

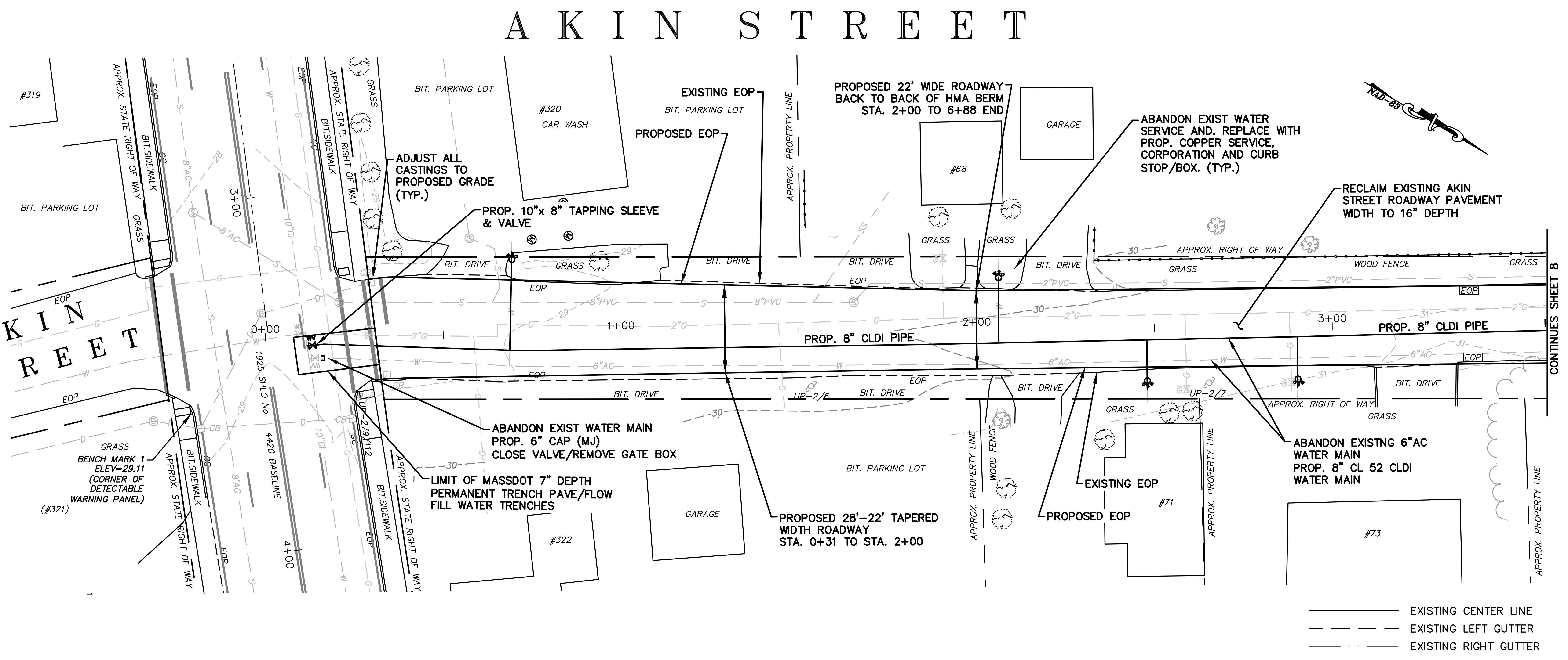


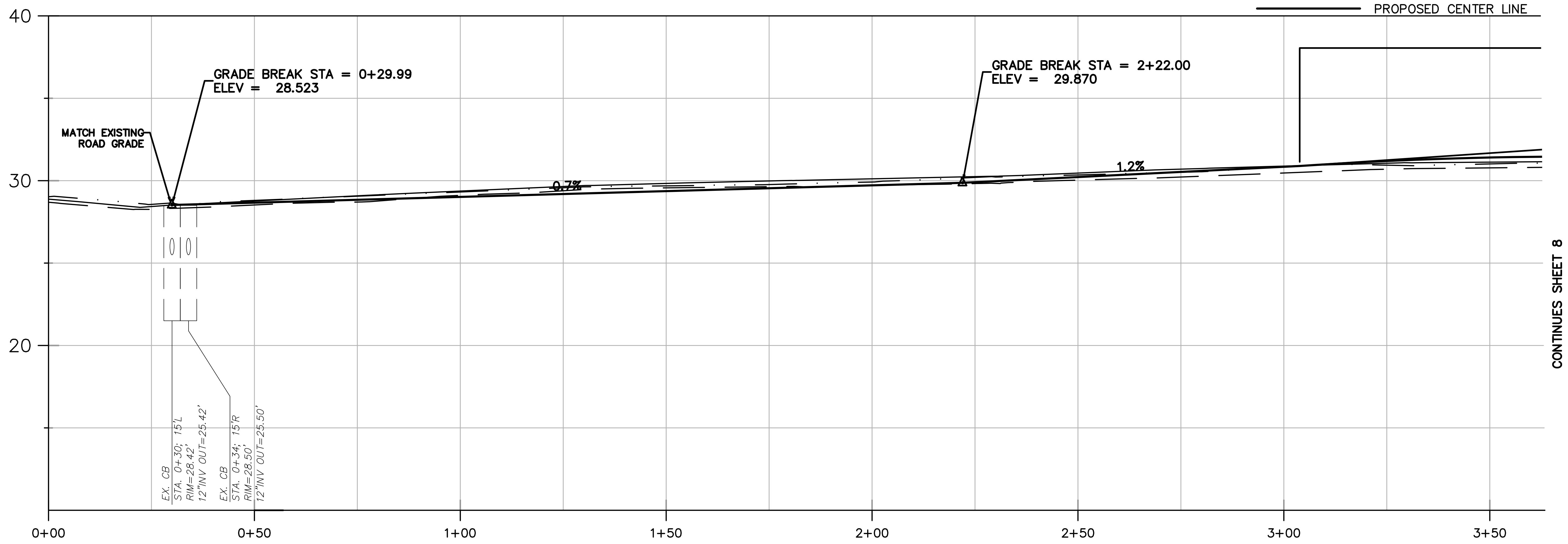
CONSTRUCTION NOTES:

1. PROPOSED 28'–22' TAPERED WIDTH ROADWAY/HMA BERM VARIES STA. 0+31 TO STA. 2+00.
2. PROPOSED 22' WIDE ROADWAY BACK TO BACK OF HMA BERM STA. 2+00 TO 6+88 END.
3. SEE CONSTRUCTION DETAIL SHEET FOR MONOLITHIC HMA BERM.

TYPICAL PROPOSED CROSS SECTION OF AKIN STREET

NOT TO SCALE


AKIN STREET
NAD-83
AKIN STREET
#319
#320 CAR WASH
#68
#71
#73
#321
#322
BIT. PARKING LOT
GARAGE
GRASS
BIT. DRIVE
BIT. SIDEWALK
APPROX. STATE RIGHT OF WAY
APPROX. PROPERTY LINE
APPROX. RIGHT OF WAY
WOOD FENCE
EOP
3+00
4+00
0+00
1+00
2+00
3+00
1925 SHLD No. 4420 BASELINE
UP-2/6
UP-2/7
ADJUST ALL CASTINGS TO PROPOSED GRADE (TYP.)
PROP. 10"x 8" TAPPING SLEEVE & VALVE
EXISTING EOP
PROPOSED EOP
PROPOSED 22' WIDE ROADWAY BACK TO BACK OF HMA BERM STA. 2+00 TO 6+88 END
ABANDON EXIST WATER SERVICE AND. REPLACE WITH PROP. COPPER SERVICE, CORPORATION AND CURB STOP/BOX. (TYP.)
RECLAIM EXISTING AKIN STREET ROADWAY PAVEMENT WIDTH TO 16" DEPTH
PROP. 8" CLDI PIPE
PROP. 8" CLDI PIPE
ABANDON EXIST WATER MAIN PROP. 6" CAP (MJ) CLOSE VALVE/REMOVE GATE BOX
LIMIT OF MASSDOT 7" DEPTH PERMANENT TRENCH PAVE/FLOW FILL WATER TRENCHES
PROPOSED 28'-22' TAPERED WIDTH ROADWAY STA. 0+31 TO STA. 2+00
EXISTING EOP
PROPOSED EOP
ABANDON EXISTNG 6"AC WATER MAIN PROP. 8" CL 52 CLDI WATER MAIN
BENCH MARK 1 ELEV=29.11 (CORNER OF DETECTABLE WARNING PANEL)
CONTINUES SHEET 8
EXISTING CENTER LINE
EXISTING LEFT GUTTER
EXISTING RIGHT GUTTER
PROPOSED CENTER LINE



28.88	CENTER LINE PROPOSED CENTER LINE	28.43	28.76 **28.66**	29.08 **28.84**	29.37 **29.01**	29.65 **29.19**	29.83 **29.37**	29.98 **29.54**	30.11 **29.72**	30.25 **29.91**	30.46 **30.22**	30.70 **30.53**	30.88 **30.84**	31.06 **31.19**	31.12 **31.40**
28.69	LEFT GUTTER	28.27	28.53	28.70	29.11	29.39	29.56	29.63	29.72	29.82	30.03	30.22	30.47	30.69	30.78
29.02	RIGHT GUTTER	28.56	28.80	29.06	29.31	29.57	29.68	29.76	29.92	30.20	30.35	30.51	30.83	30.94	31.02

AKIN STREET PLAN

HORIZONTAL SCALE: 1" = 20'
VERITCAL SCALE: 1" = 5'

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

Michael J. Carter
MICHAEL J. CARTER CIVIL No. 35907
4/6/2022

TOWN OF FAIRHAVEN, MASSACHUSETTS
ROADWAY IMPROVEMENT PROJECT

AKIN STREET PROPOSED PLAN
STA 0+00 TO 3+50

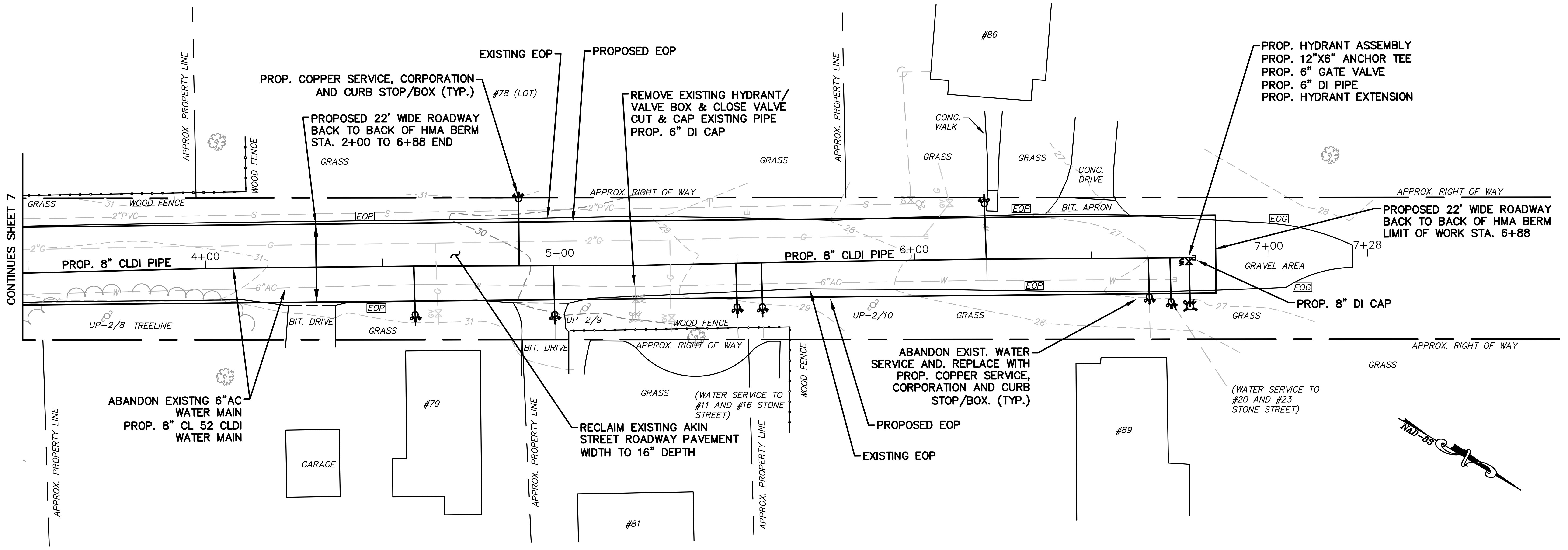
GCG ASSOCIATES, INC.
WILMINGTON MASSACHUSETTS

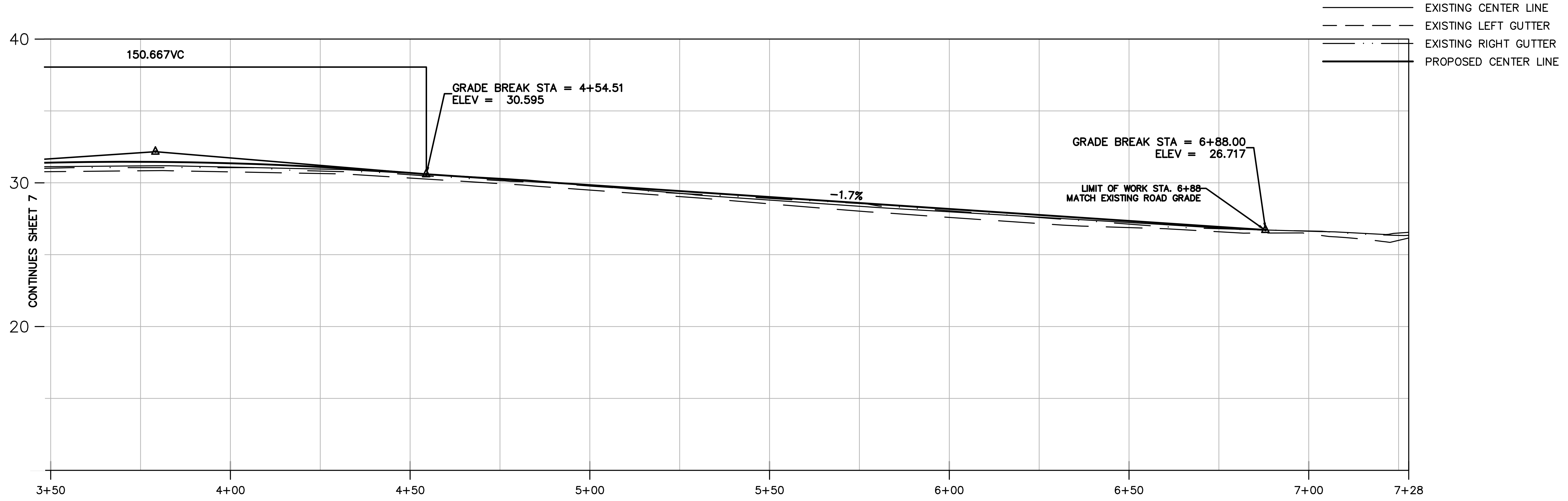
SCALE: AS NOTED DATE: FEBRUARY 9, 2022

JOB NO.\FILE NAME:	DESIGNED BY: JTC DRAWN BY: JTC CHECKED BY: MJC	PLAN NO.
1841–BID SET–2022		7 OF 13

1841-BID SET-2022.dwg Saved: 4/6/2022 6:17 PM Plotted: Apr 07, 2022 1:44:pm

AKIN STREET


EXISTING EOP
PROPOSED EOP
PROP. COPPER SERVICE, CORPORATION AND CURB STOP/BOX (TYP.)
#78 (LOT)
REMOVE EXISTING HYDRANT/ VALVE BOX & CLOSE VALVE CUT & CAP EXISTING PIPE PROP. 6" DI CAP
PROPOSED 22' WIDE ROADWAY BACK TO BACK OF HMA BERM STA. 2+00 TO 6+88 END
APPROX. PROPERTY LINE
WOOD FENCE
GRASS
#86
CONC. WALK
CONC. DRIVE
BIT. APRON
PROP. HYDRANT ASSEMBLY
PROP. 12"X6" ANCHOR TEE
PROP. 6" GATE VALVE
PROP. 6" DI PIPE
PROP. HYDRANT EXTENSION
APPROX. RIGHT OF WAY
PROPOSED 22' WIDE ROADWAY BACK TO BACK OF HMA BERM LIMIT OF WORK STA. 6+88
CONTINUES SHEET 7
EOP
EOG
2"PVC
2"G
6"AC
PROP. 8" CLDI PIPE
4+00
5+00
6+00
7+00
7+28
GRAVEL AREA
PROP. 8" DI CAP
UP-2/8
TREELINE
BIT. DRIVE
UP-2/9
UP-2/10
WOOD FENCE
ABANDON EXIST. WATER SERVICE AND. REPLACE WITH PROP. COPPER SERVICE, CORPORATION AND CURB STOP/BOX. (TYP.)
ABANDON EXISTNG 6"AC WATER MAIN PROP. 8" CL 52 CLDI WATER MAIN
#79
GARAGE
(WATER SERVICE TO #11 AND #16 STONE STREET)
RECLAIM EXISTING AKIN STREET ROADWAY PAVEMENT WIDTH TO 16" DEPTH
PROPOSED EOP
EXISTING EOP
#81
#89
(WATER SERVICE TO #20 AND #23 STONE STREET)
NAD-83



	3+50		4+00		4+50		5+00		5+50		6+00		6+50		7+00		7+28
CENTER LINE	31.12	31.17	31.09	30.96	30.66	30.31	29.81	29.27	28.80	28.37	27.98	27.61	27.24	26.85	26.63	26.50	26.55
PROPOSED CENTER LINE	31.40	31.46	31.36	31.10	30.69	30.25	29.84	29.42	29.01	28.59	28.18	27.76	27.35	26.93			
LEFT GUTTER	30.78	30.84	30.76	30.64	30.33	29.94	29.49	29.04	28.54	28.03	27.59	27.17	26.89	26.60	26.46	25.99	26.16
RIGHT GUTTER	31.02	31.05	31.05	30.82	30.56	30.15	29.77	29.26	28.92	28.56	28.05	27.59	27.12	26.81	26.65	26.34	26.35

AKIN STREET PLAN

HORIZONTAL SCALE: 1" = 20'
VERITCAL SCALE: 1" = 5'

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

MICHAEL J. CARTER
CIVIL
No. 35907

Michael J. Carter

4/6/2022

TOWN OF FAIRHAVEN, MASSACHUSETTS
ROADWAY IMPROVEMENT PROJECT

AKIN STREET PROPOSED PLAN
STA 3+50 TO 7+28

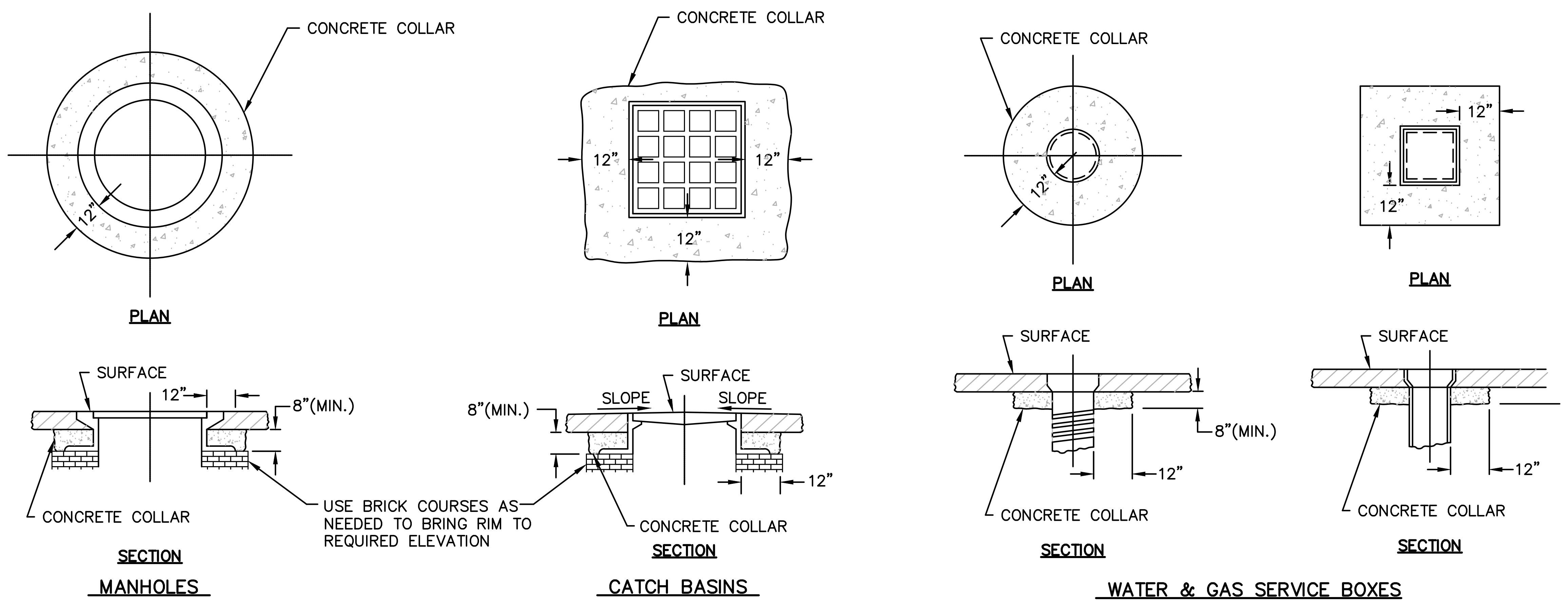
GCG ASSOCIATES, INC.
WILMINGTON MASSACHUSETTS

SCALE: AS NOTED
DATE: FEBRUARY 9, 2022

JOB NO.\FILE NAME: 1841-BID SET-2022
DESIGNED BY: JTC
DRAWN BY: JTC
CHECKED BY: MJC
PLAN NO. 8 OF 13

1841-BID SET-2022.dwg Saved: 4/6/2022 6:17 PM Plotted: Apr 07, 2022 1:45:pm

Tab: SHT8 Plot Style: GCG-Default2004.ctb Plotted By: Jim Coe



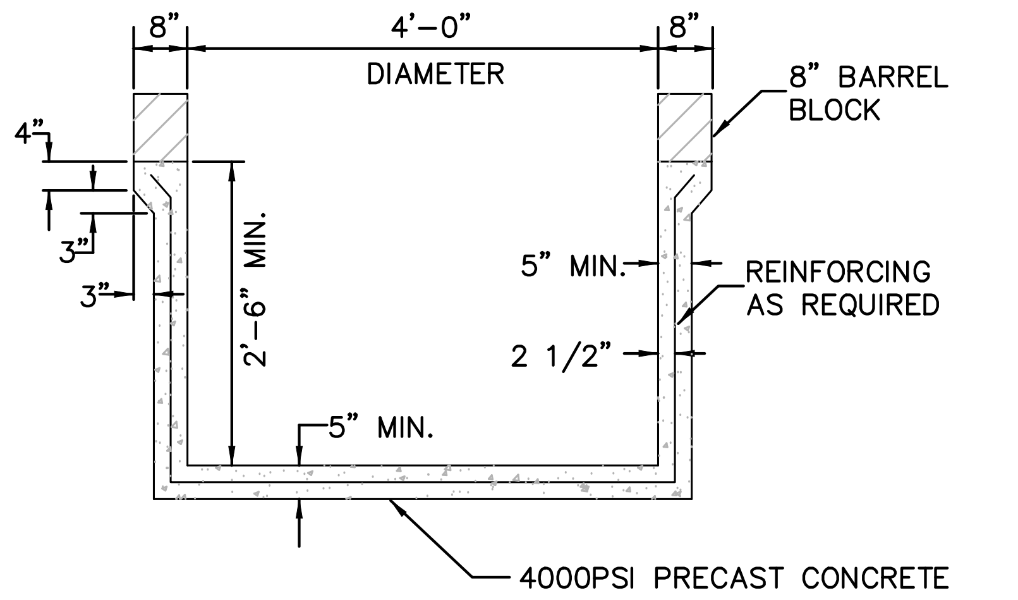
MANHOLES

CATCH BASINS

WATER & GAS SERVICE BOXES

DETAILS FOR ADJUSTING CASTINGS

N.T.S.

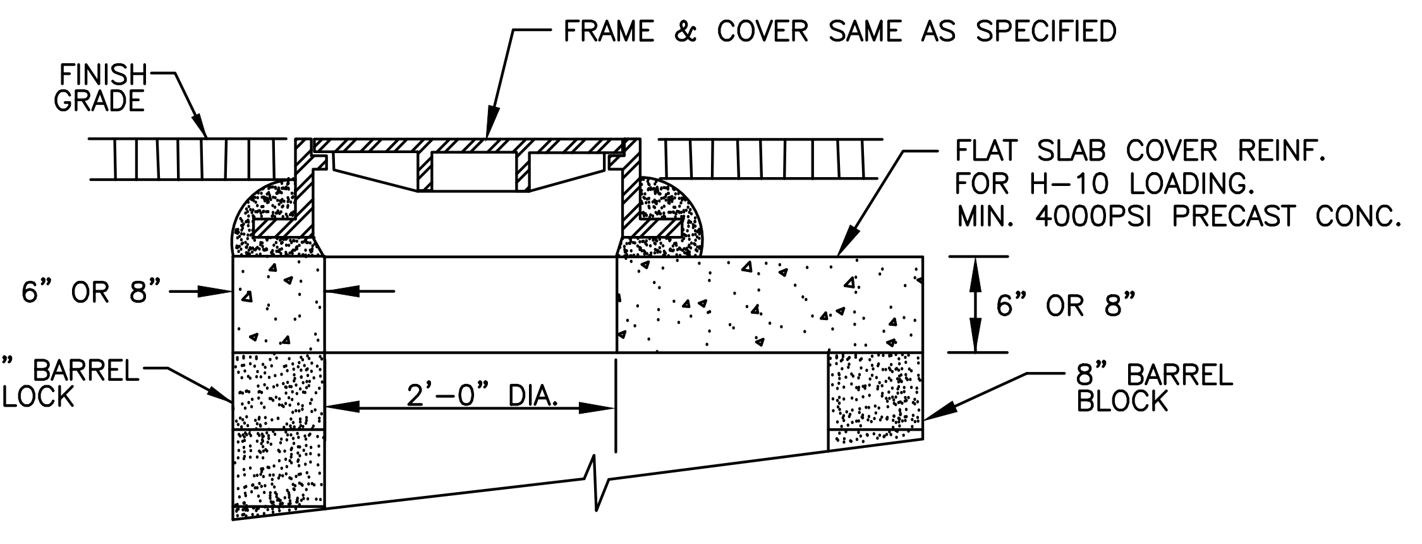


NOTE:

1. PRECAST CONCRETE SUMP TO CONFORM TO ASTM C478.
2. CONCRETE SHALL BE 4000 PSI MINIMUM.
3. STEEL REINFORCEMENT TO MEET OR EXCEED H-20 LOADING.
4. REINFORCING STEEL 0.12 SQ.IN./LF & 0.12 SQ.IN. (BOTH WAYS) BASE BOTTOM.

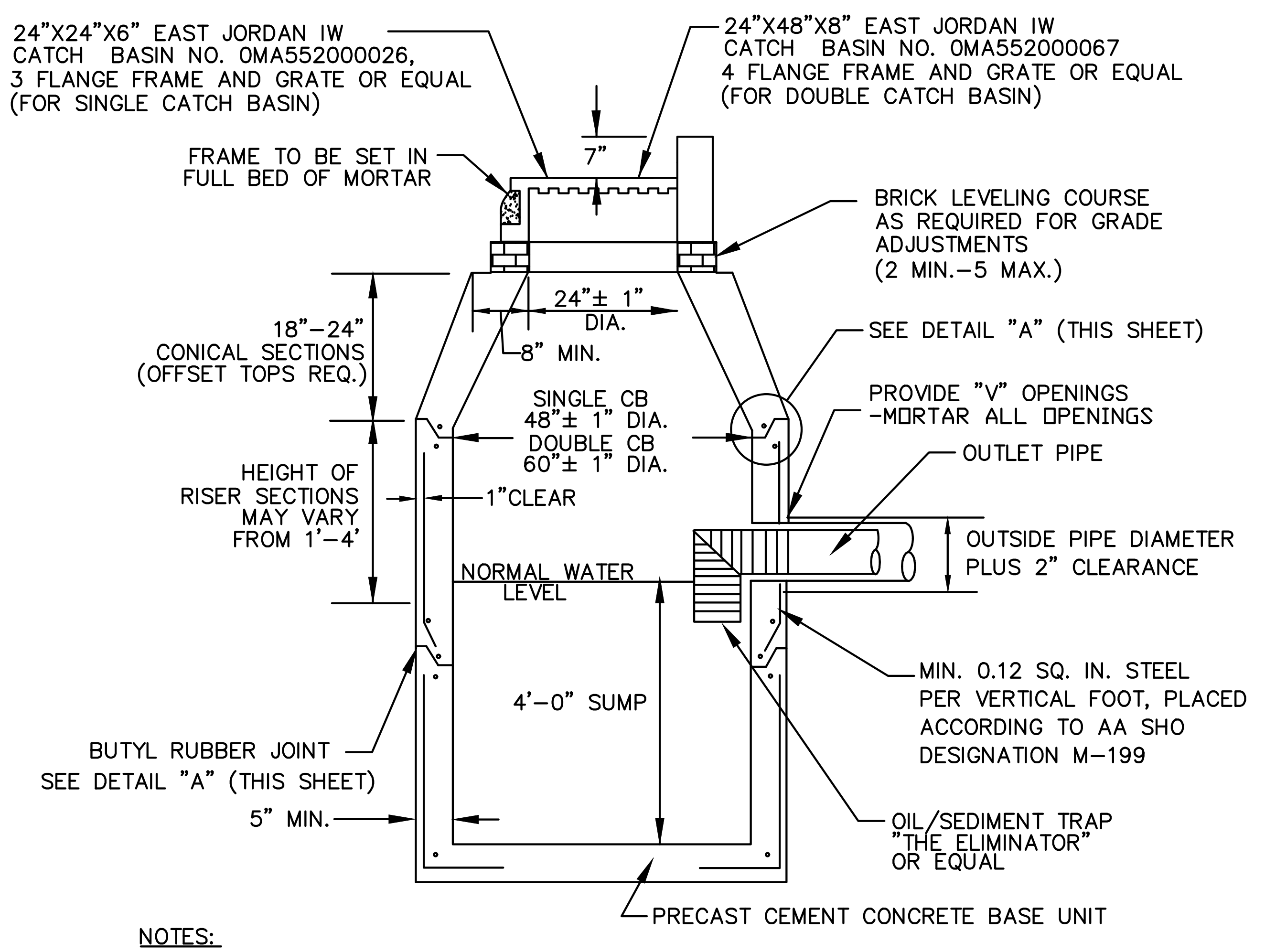
PRECAST CONCRETE CATCH BASIN SUMP

NOT TO SCALE


FRAME & COVER SAME AS SPECIFIED
FINISH GRADE
FLAT SLAB COVER REINF. FOR H-10 LOADING. MIN. 4000PSI PRECAST CONC.
6" OR 8"
6" OR 8"
8" BARREL BLOCK
2'-0" DIA.
8" BARREL BLOCK

OFFSET TOP FOR ALL MANHOLES & CATCH BASINS

NOT TO SCALE

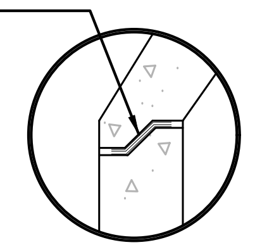

24"X24"X6" EAST JORDAN IW CATCH BASIN NO. 0MA552000026, 3 FLANGE FRAME AND GRATE OR EQUAL (FOR SINGLE CATCH BASIN)
24"X48"X8" EAST JORDAN IW CATCH BASIN NO. 0MA552000067 4 FLANGE FRAME AND GRATE OR EQUAL (FOR DOUBLE CATCH BASIN)
7"
FRAME TO BE SET IN FULL BED OF MORTAR
BRICK LEVELING COURSE AS REQUIRED FOR GRADE ADJUSTMENTS (2 MIN.-5 MAX.)
24"± 1" DIA.
8" MIN.
18"-24" CONICAL SECTIONS (OFFSET TOPS REQ.)
SEE DETAIL "A" (THIS SHEET)
PROVIDE "V" OPENINGS -MORTAR ALL OPENINGS
SINGLE CB 48"± 1" DIA. DOUBLE CB 60"± 1" DIA.
OUTLET PIPE
HEIGHT OF RISER SECTIONS MAY VARY FROM 1'-4'
1"CLEAR
OUTSIDE PIPE DIAMETER PLUS 2" CLEARANCE
NORMAL WATER LEVEL
MIN. 0.12 SQ. IN. STEEL PER VERTICAL FOOT, PLACED ACCORDING TO AA SHO DESIGNATION M-199
4'-0" SUMP
BUTYL RUBBER JOINT SEE DETAIL "A" (THIS SHEET)
5" MIN.
OIL/SEDIMENT TRAP "THE ELIMINATOR" OR EQUAL
PRECAST CEMENT CONCRETE BASE UNIT

NOTES:

1.) PRECAST REINFORCED CONCRETE CB BASE, CONE AND RISER SECTIONS PER A.S.T.M. C-478. MINIMUM 4000 PSI CONCRETE.
2.) PRECAST CONCRETE STRUCTURE SHALL BE RATED FOR AASHTO HS-20 LOADING.
3.) DOUBLE GRATED CATCH BASINS SHALL BE 5' IN DIAMETER, HAVE 6" WALLS AND PROVIDE A MIN. OPENING OF 24"x36".

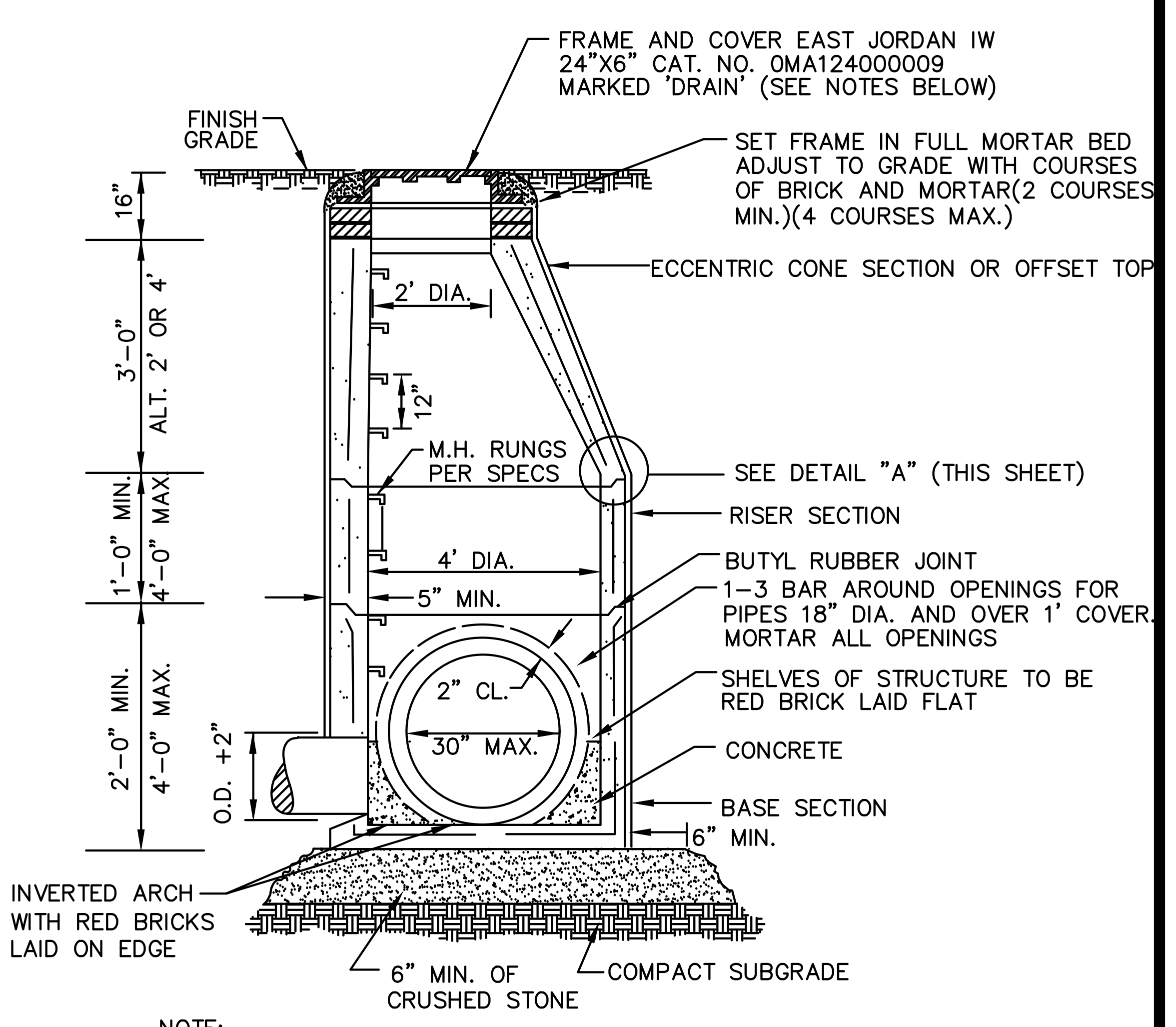
PRECAST CONCRETE CATCH BASIN

WITH GRANITE CURB INLET
NOT TO SCALE



DETAIL "A"

NOT TO SCALE

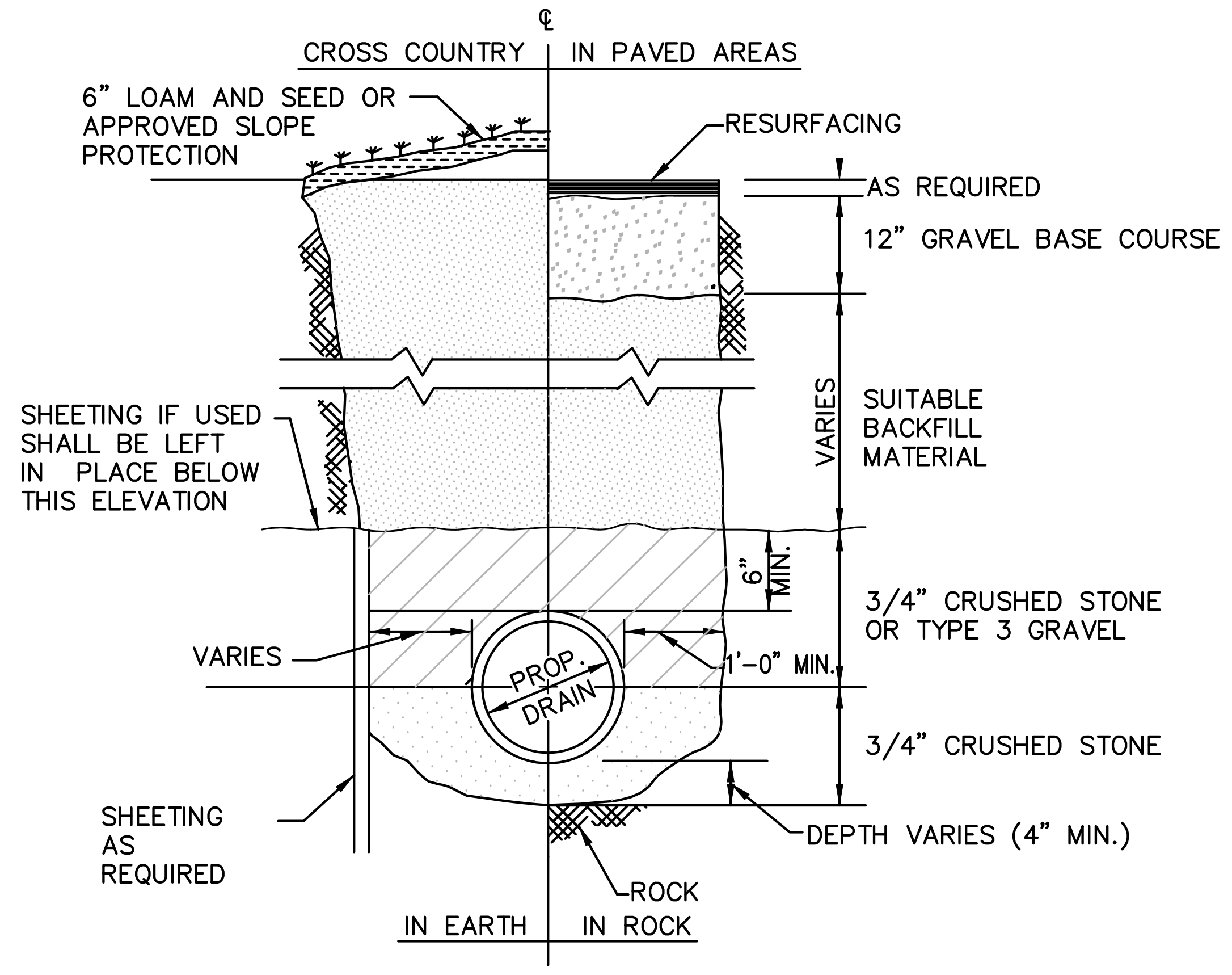

FRAME AND COVER EAST JORDAN IW 24"X6" CAT. NO. 0MA124000009 MARKED 'DRAIN' (SEE NOTES BELOW)
FINISH GRADE
SET FRAME IN FULL MORTAR BED ADJUST TO GRADE WITH COURSES OF BRICK AND MORTAR(2 COURSES MIN.)(4 COURSES MAX.)
16"
ECCENTRIC CONE SECTION OR OFFSET TOP
2' DIA.
3'-0" ALT. 2' OR 4'
12"
M.H. RUNGS PER SPECS
SEE DETAIL "A" (THIS SHEET)
RISER SECTION
1'-0" MIN. 4'-0" MAX
4' DIA.
BUTYL RUBBER JOINT
5" MIN.
1-3 BAR AROUND OPENINGS FOR PIPES 18" DIA. AND OVER 1' COVER. MORTAR ALL OPENINGS
2" CL.
SHELVES OF STRUCTURE TO BE RED BRICK LAID FLAT
30" MAX.
2'-0" MIN. 4'-0" MAX.
O.D. +2"
CONCRETE
BASE SECTION
6" MIN.
INVERTED ARCH WITH RED BRICKS LAID ON EDGE
6" MIN. OF CRUSHED STONE
COMPACT SUBGRADE

NOTE:

1. PRECAST REINFORCED CONCRETE MANHOLE BASE, CONE AND RISER SECTIONS PER A.S.T.M. C-478 PIPE OPENINGS TO BE PRECAST IN BASE SECTION
2. MINIMUM 4000 PSI PRECAST CONCRETE

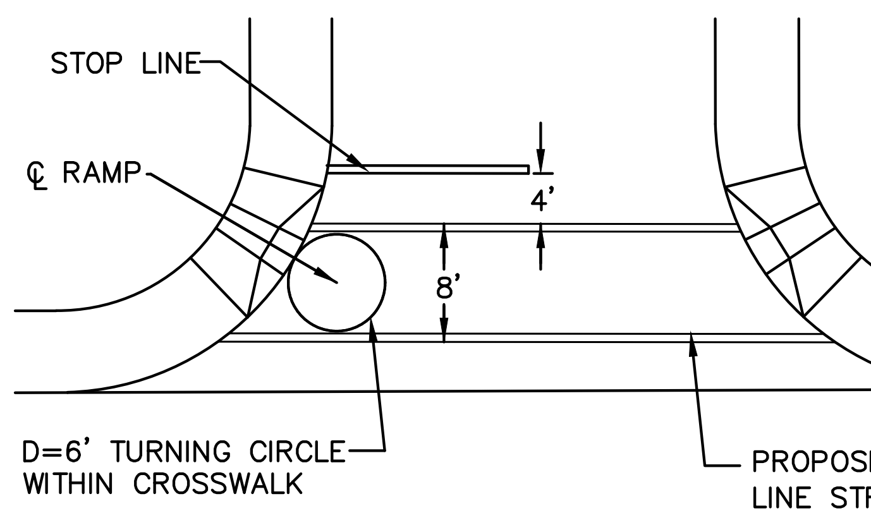
TYPICAL PRECAST DRAIN MANHOLE

NOT TO SCALE



TYPICAL DRAIN/SEWER TRENCH DETAIL

NOT TO SCALE

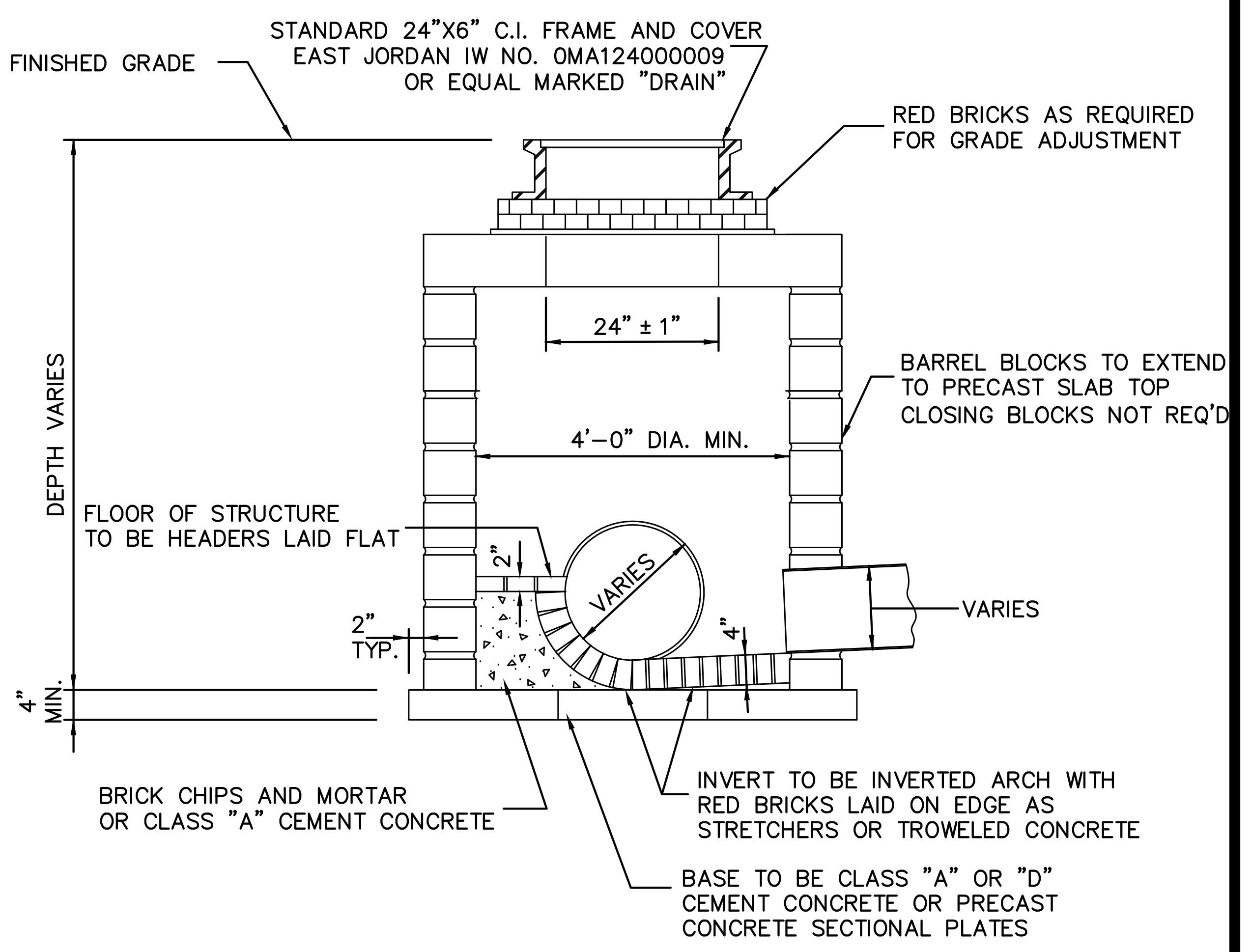

STOP LINE
℄ RAMP
4'
8'
D=6' TURNING CIRCLE WITHIN CROSSWALK
PROPOSED CROSSWALK LINE STRIPING

NOTES:

1. CROSSWALKS SHALL BE PAINTED AT ALL PAIRED WHEELCHAIR RAMP LOCATIONS WITHIN THE LIMITS OF WORK.
2. THE CROSSWALKS AND STOP LINES SHALL BE PAINTED WITH 12" WIDE, WHITE REFLECTORIZED, EPOXY PAINT IN THE PATTERN SHOWN.

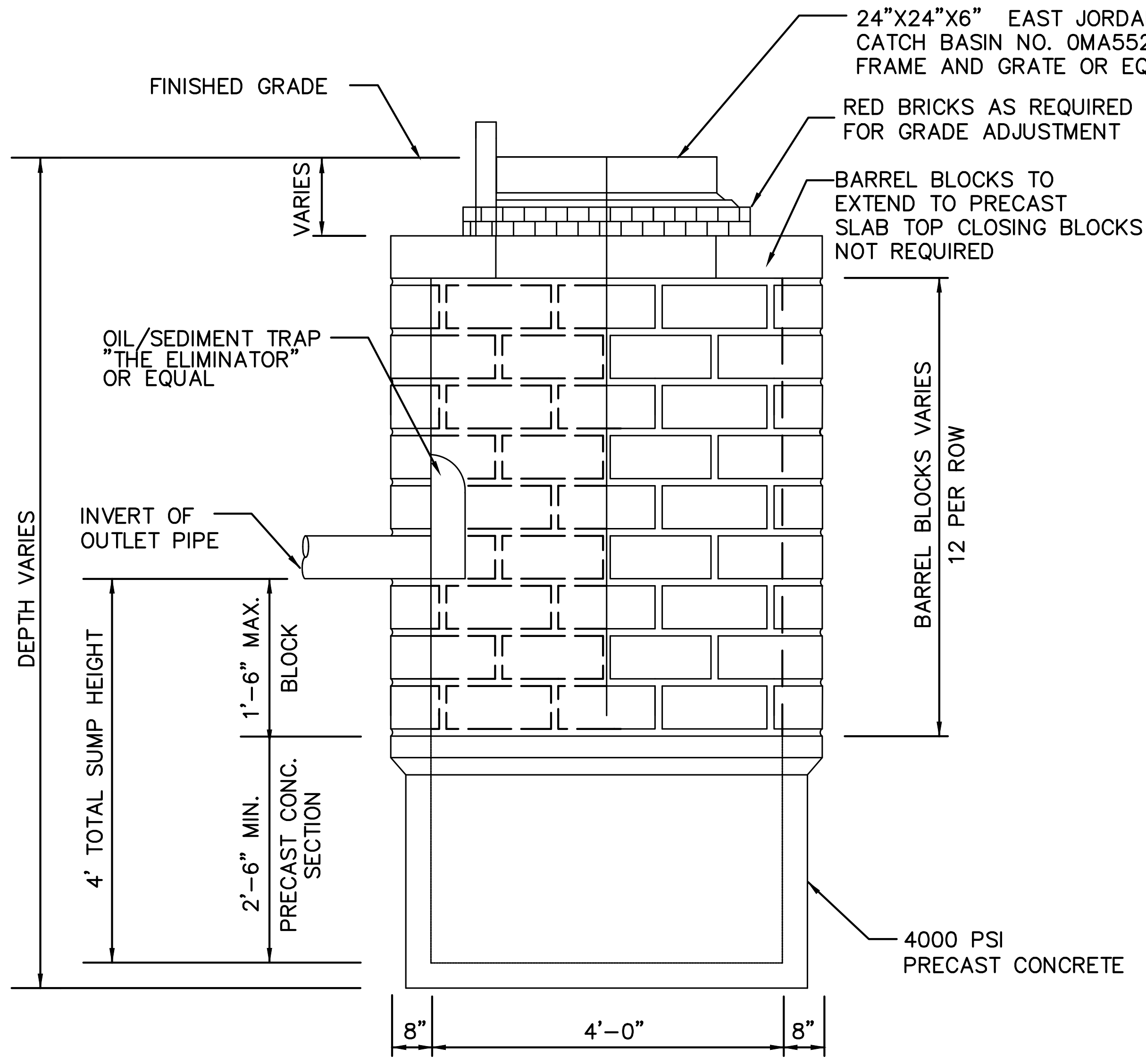
PAIRED WHEELCHAIR RAMP & CROSSWALK DETAIL

N.T.S.


FINISHED GRADE
STANDARD 24"X6" C.I. FRAME AND COVER EAST JORDAN IW NO. 0MA124000009 OR EQUAL MARKED "DRAIN"
RED BRICKS AS REQUIRED FOR GRADE ADJUSTMENT
24" ± 1"
BARREL BLOCKS TO EXTEND TO PRECAST SLAB TOP CLOSING BLOCKS NOT REQ'D
DEPTH VARIES
4'-0" DIA. MIN.
FLOOR OF STRUCTURE TO BE HEADERS LAID FLAT
2"
VARIES
VARIES
2" TYP.
4"
4" MIN.
BRICK CHIPS AND MORTAR OR CLASS "A" CEMENT CONCRETE
INVERT TO BE INVERTED ARCH WITH RED BRICKS LAID ON EDGE AS STRETCHERS OR TROWELED CONCRETE
BASE TO BE CLASS "A" OR "D" CEMENT CONCRETE OR PRECAST CONCRETE SECTIONAL PLATES

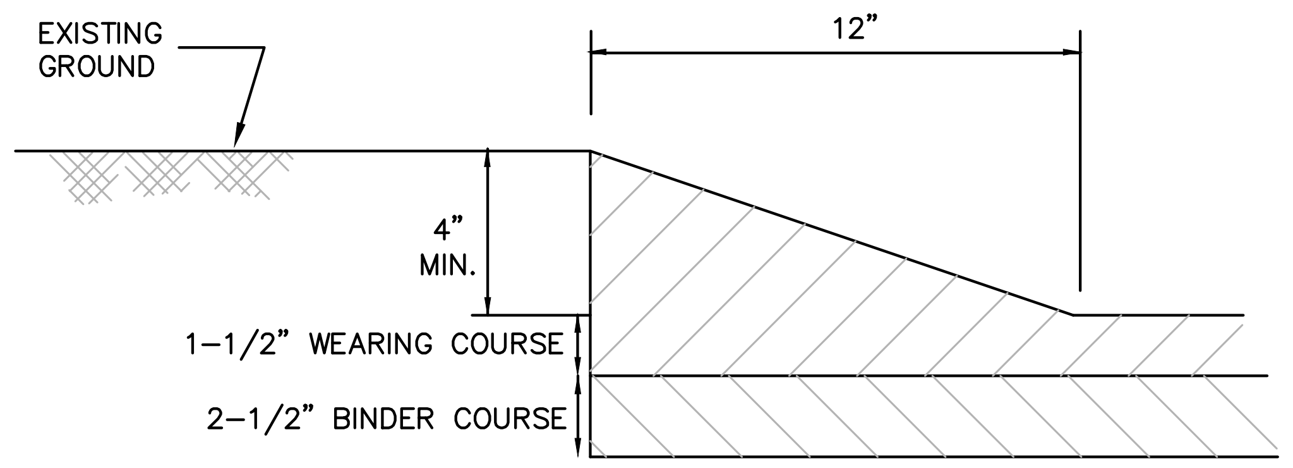
TYPICAL CONCRETE BLOCK DRAIN MANHOLE

NOT TO SCALE


24"X24"X6" EAST JORDAN IW CATCH BASIN NO. 0MA552000026, 3 FLANGE FRAME AND GRATE OR EQUAL
FINISHED GRADE
RED BRICKS AS REQUIRED FOR GRADE ADJUSTMENT
VARIES
BARREL BLOCKS TO EXTEND TO PRECAST SLAB TOP CLOSING BLOCKS NOT REQUIRED
OIL/SEDIMENT TRAP "THE ELIMINATOR" OR EQUAL
BARREL BLOCKS VARIES 12 PER ROW
INVERT OF OUTLET PIPE
DEPTH VARIES
4' TOTAL SUMP HEIGHT
1'-6" MAX. BLOCK
2'-6" MIN. PRECAST CONC. SECTION
4000 PSI PRECAST CONCRETE
8"
4'-0"
8"

TYPICAL CONCRETE BLOCK CATCH BASIN

NOT TO SCALE

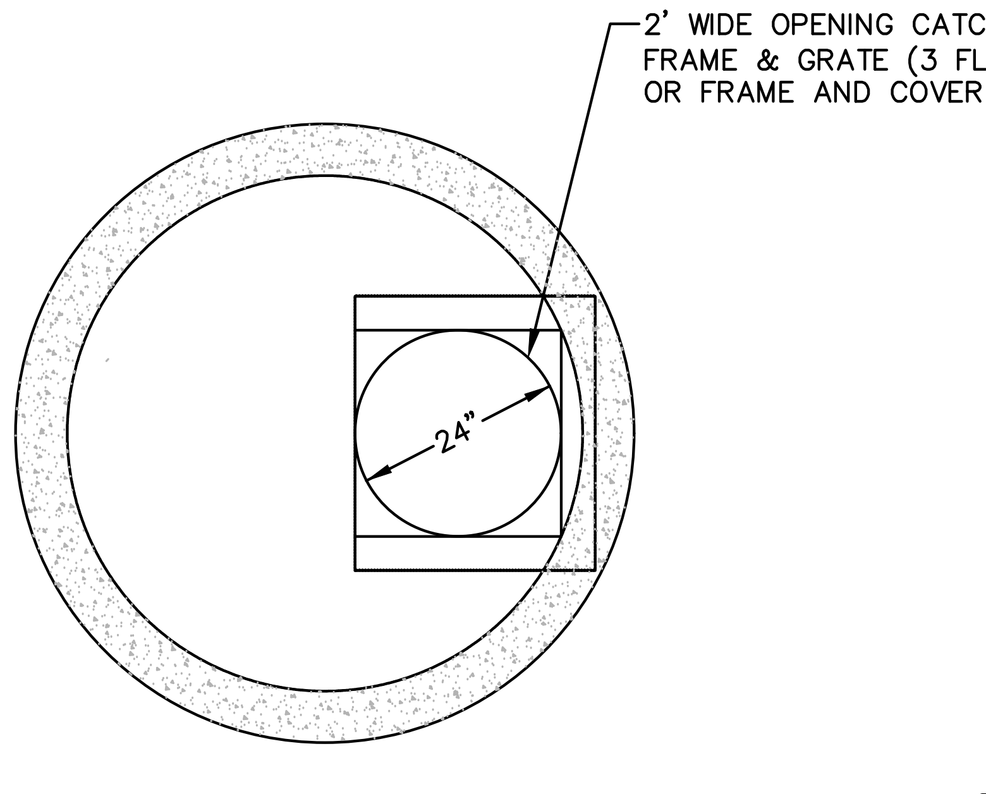


NOTES

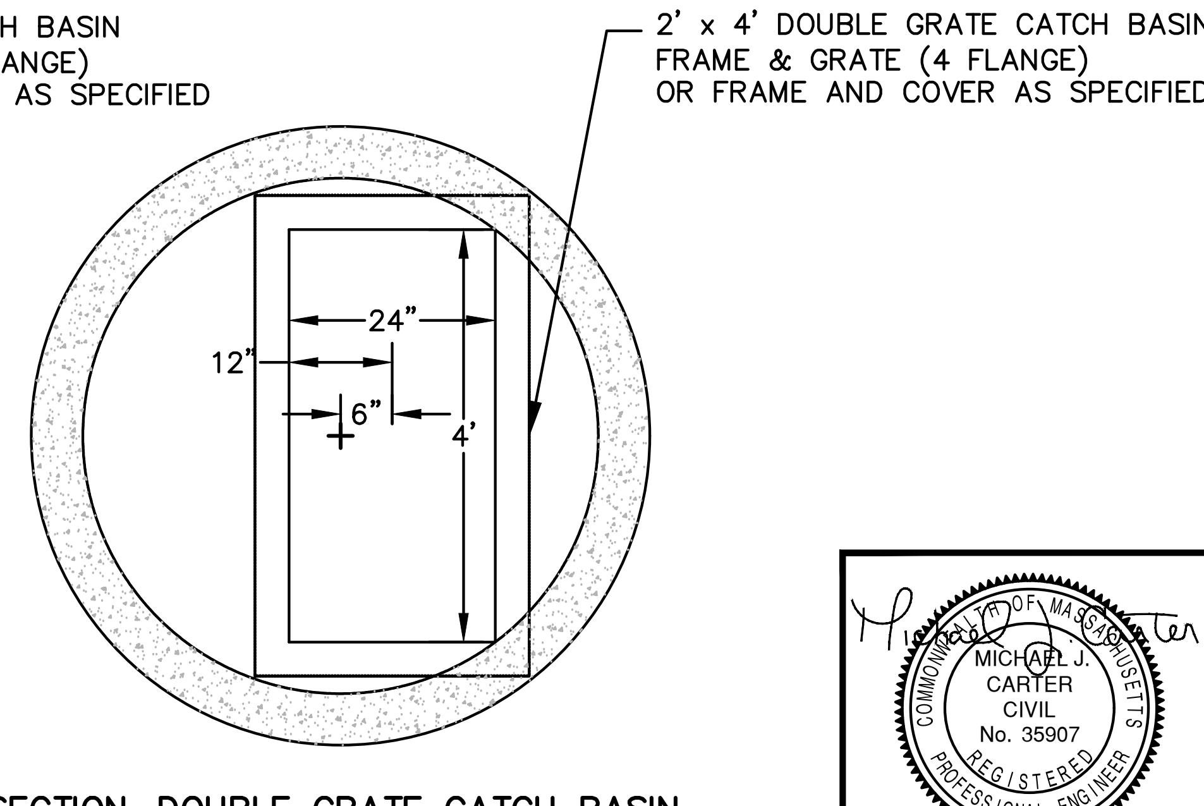
1. INCLUDE PAYMENT FOR BERM UNDER ITEM 1 1/2" WEARING COURSE PAVEMENT ITEM.
2. COMPACT BERM WITH 75 LB. STEEL HAND ROLLER.
3. INSTALL MONOLITHIC HMA BERM ON BOTH SIDES OF ROAD.

MONOLITHIC HMA BERM DETAIL

NOT TO SCALE


2' WIDE OPENING CATCH BASIN FRAME & GRATE (3 FLANGE) OR FRAME AND COVER AS SPECIFIED
24"

SECTION-CATCH BASIN OR DRAIN MANHOLE


2' x 4' DOUBLE GRATE CATCH BASIN FRAME & GRATE (4 FLANGE) OR FRAME AND COVER AS SPECIFIED
24"
12"
6"
4'

SECTION-DOUBLE GRATE CATCH BASIN

TOWN OF FAIRHAVEN, MASSACHUSETTS
ROADWAY IMPROVEMENT PROJECT

CONSTRUCTION DETAILS I
GENERAL

Michael J. Carter
MICHAEL J. CARTER CIVIL No. 35907
4/6/2022

GCG ASSOCIATES, INC.
WILMINGTON MASSACHUSETTS

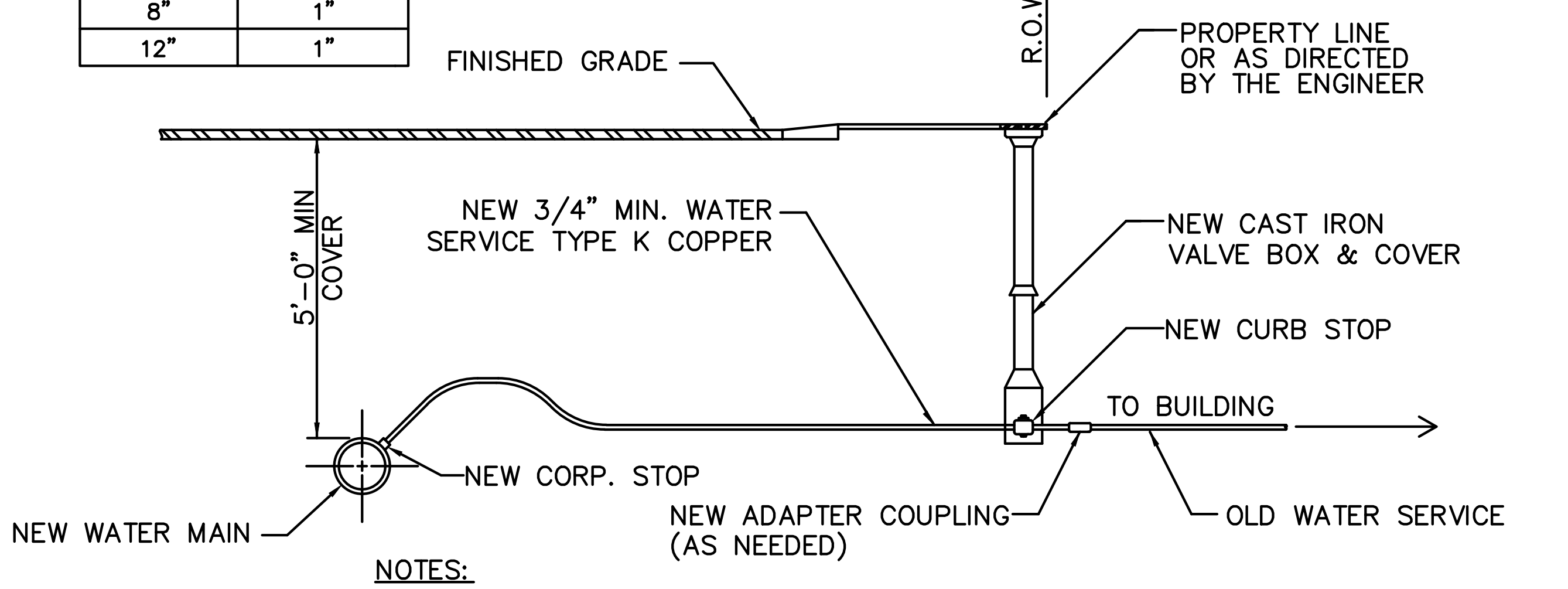
SCALE: AS NOTED
DATE: FEBRUARY 9, 2022

JOB NO.\FILE NAME: 1841.dwg
DESIGNED BY: L.P.B.
DRAWN BY: L.P.B.
CHECKED BY: M.J.C.
PLAN NO. 9 OF 13

MAXIMUM SIZE TAPPED CONNECTION *

WATER MAIN DIAMETER	MAXIMUM TAP DIAMETER
4"	1/2"
6"	3/4"
8"	1"
12"	1"

* WHERE THE SIZE OF THE CONNECTION EXCEEDS THAT GIVEN IN THE TABLE, A BOSS SHALL BE PROVIDED OR THE TAP SHALL BE MADE BY MEANS OF MULTIPLE CORP. STOPS AND BRANCH FITTINGS, TAPPED TEE, OR TAPPED SADDLE.

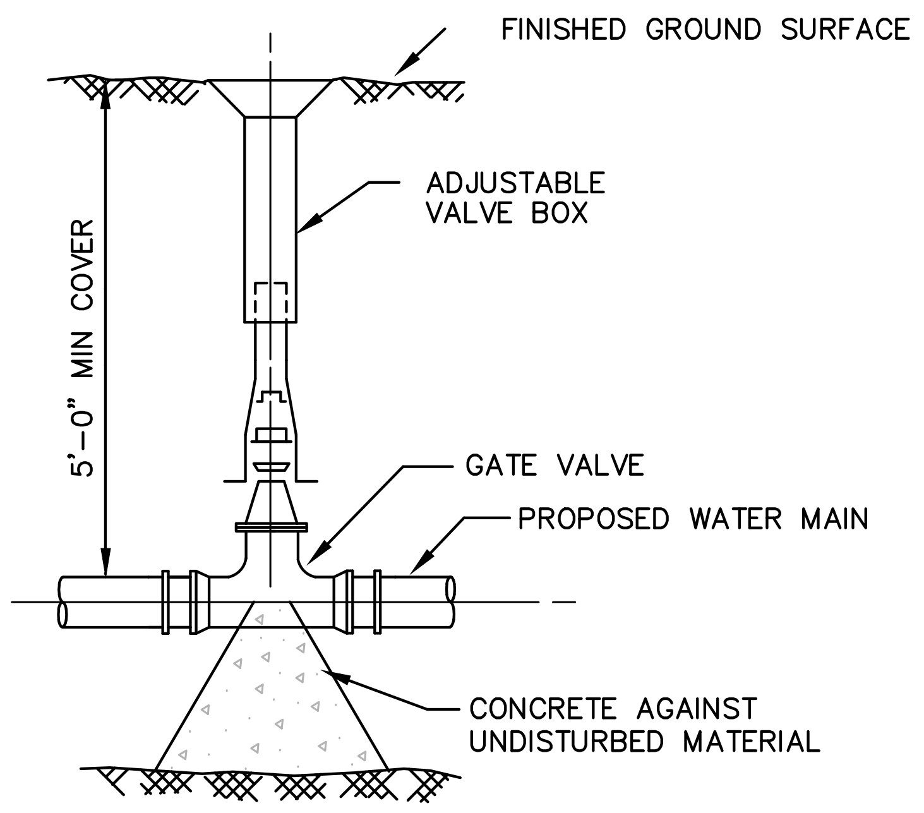

R.O.W.
FINISHED GRADE
PROPERTY LINE OR AS DIRECTED BY THE ENGINEER
5'-0" MIN COVER
NEW 3/4" MIN. WATER SERVICE TYPE K COPPER
NEW CAST IRON VALVE BOX & COVER
NEW CURB STOP
TO BUILDING
NEW CORP. STOP
NEW WATER MAIN
NEW ADAPTER COUPLING (AS NEEDED)
OLD WATER SERVICE

NOTES:

1. ALL WATER SERVICES AND CURB STOPS SHALL BE REPLACED UP TO THE RIGHT OF WAY OR AS DIRECTED BY THE ENGINEER. ALL FITTINGS REQUIRED SHALL BE INCLUDED IN THE PRICE OF THE PIPE.
2. ALL NEW WATER SERVICES, CORPORATIONS & CURBSTOPS SHALL BE AS LISTED ON SHEET 2 AND AS SHOWN ON THE PLANS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
3. ALL 2" WATER SERVICES REQUIRE SADDLE CONNECTIONS OR TAPPING TEES.

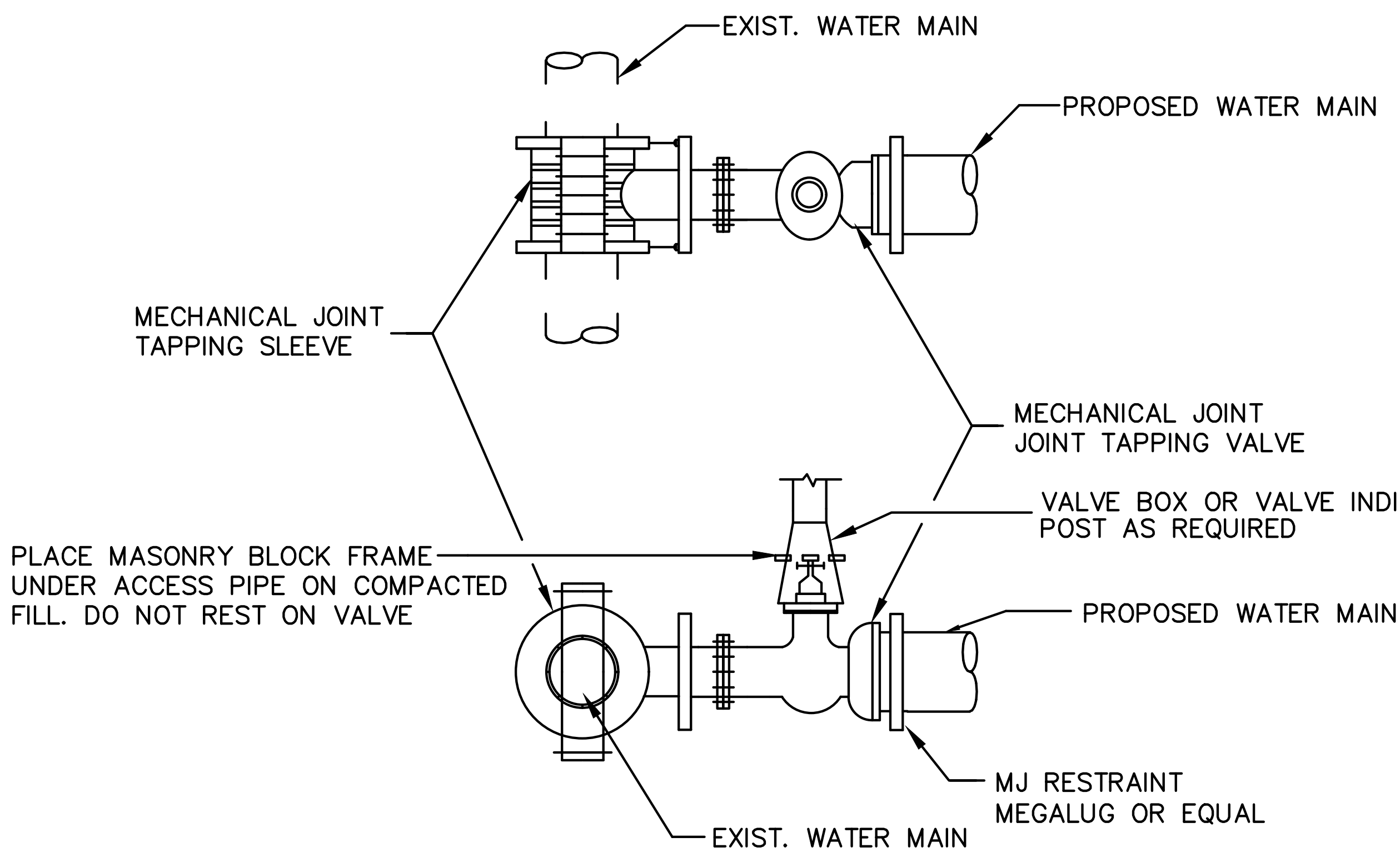
WATER SERVICE CONNECTION

NTS



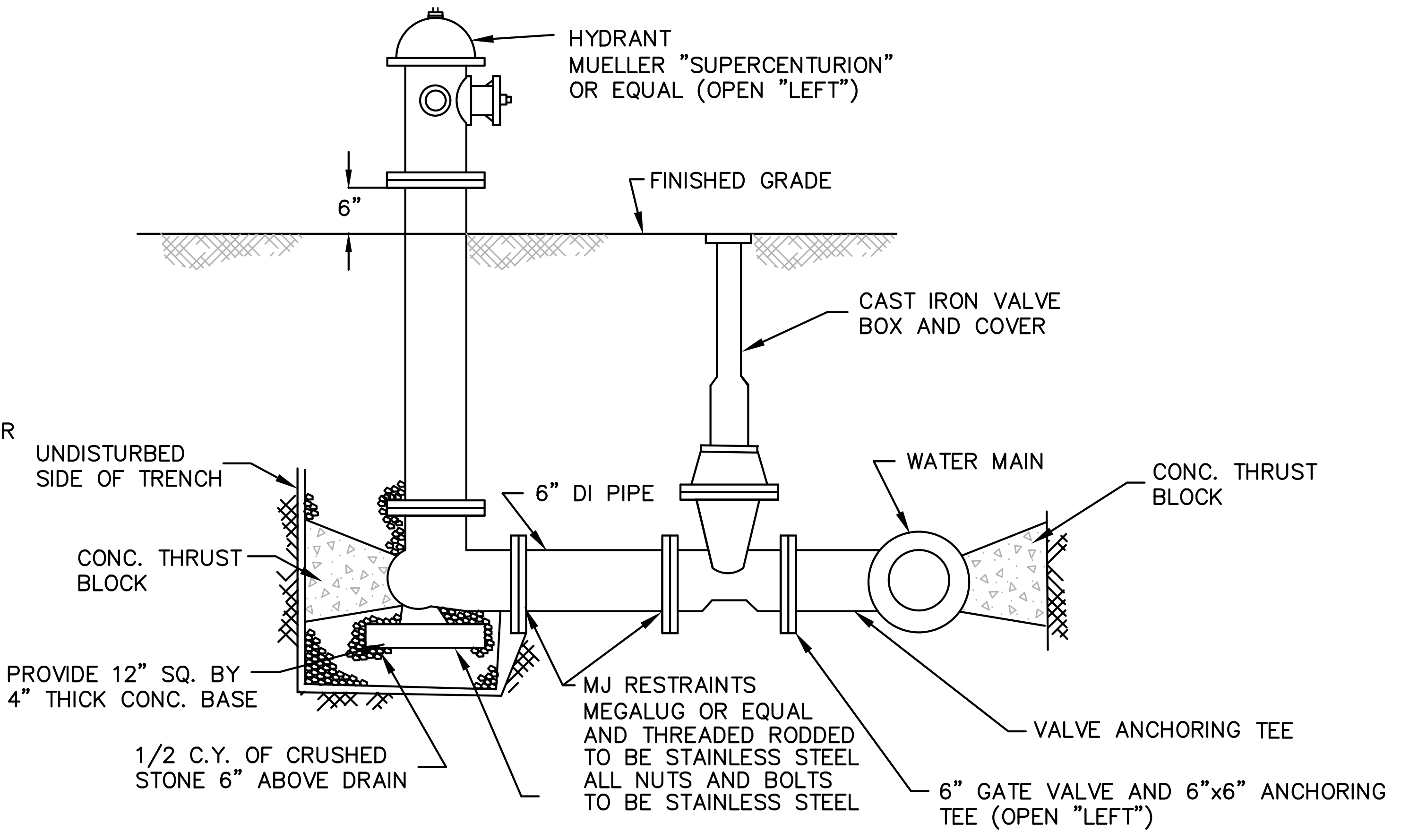
WATER VALVE DETAIL

NTS


EXIST. WATER MAIN
PROPOSED WATER MAIN
MECHANICAL JOINT TAPPING SLEEVE
MECHANICAL JOINT JOINT TAPPING VALVE
VALVE BOX OR VALVE INDICATOR POST AS REQUIRED
PLACE MASONRY BLOCK FRAME UNDER ACCESS PIPE ON COMPACTED FILL. DO NOT REST ON VALVE
PROPOSED WATER MAIN
MJ RESTRAINT MEGALUG OR EQUAL
EXIST. WATER MAIN

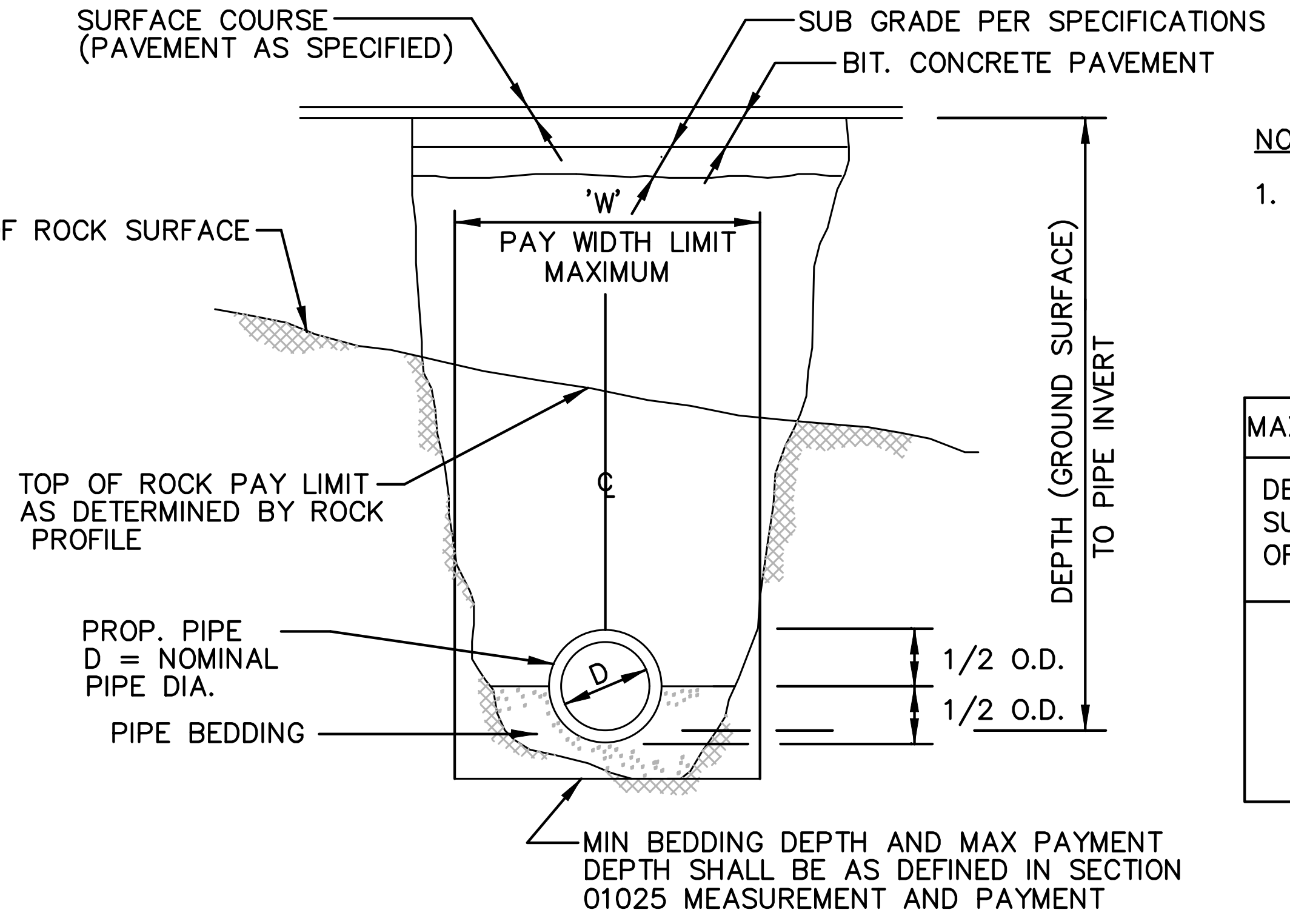
TYPICAL TAPPING SLEEVE AND VALVE

N.T.S.


HYDRANT MUELLER "SUPERCENTURION" OR EQUAL (OPEN "LEFT")
6"
FINISHED GRADE
CAST IRON VALVE BOX AND COVER
UNDISTURBED SIDE OF TRENCH
6" DI PIPE
WATER MAIN
CONC. THRUST BLOCK
CONC. THRUST BLOCK
PROVIDE 12" SQ. BY 4" THICK CONC. BASE
1/2 C.Y. OF CRUSHED STONE 6" ABOVE DRAIN
MJ RESTRAINTS MEGALUG OR EQUAL AND THREADED RODDED TO BE STAINLESS STEEL ALL NUTS AND BOLTS TO BE STAINLESS STEEL
VALVE ANCHORING TEE
6" GATE VALVE AND 6"x6" ANCHORING TEE (OPEN "LEFT")

HYDRANT DETAIL

NTS


SURFACE COURSE (PAVEMENT AS SPECIFIED)
SUB GRADE PER SPECIFICATIONS
BIT. CONCRETE PAVEMENT
TOP OF ROCK SURFACE
'W'
PAY WIDTH LIMIT MAXIMUM
℄
DEPTH (GROUND SURFACE) TO PIPE INVERT
TOP OF ROCK PAY LIMIT AS DETERMINED BY ROCK PROFILE
PROP. PIPE D = NOMINAL PIPE DIA.
D
PIPE BEDDING
1/2 O.D.
1/2 O.D.
MIN BEDDING DEPTH AND MAX PAYMENT DEPTH SHALL BE AS DEFINED IN SECTION 01025 MEASUREMENT AND PAYMENT

NOTES:

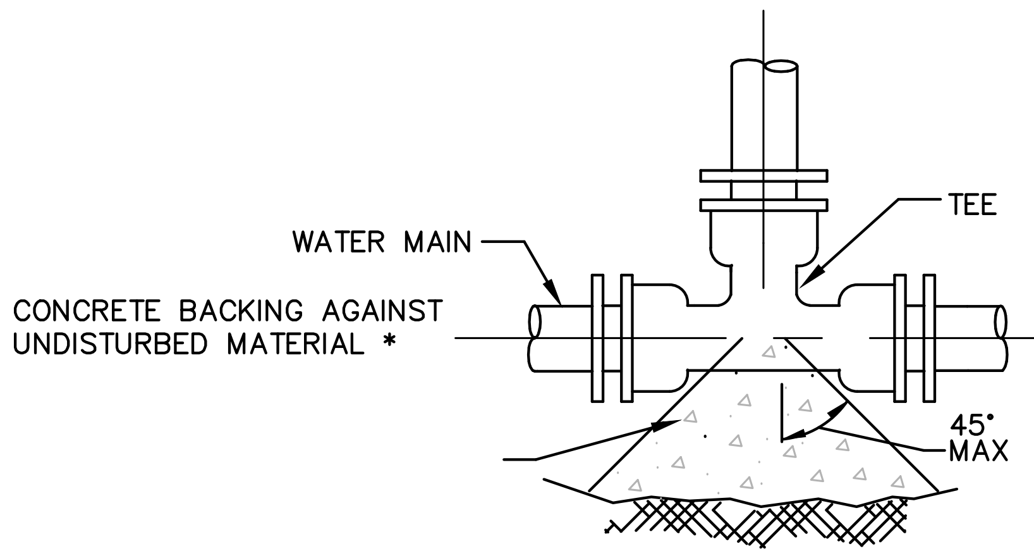
1. THE PAY LIMIT FOR ROCK REMOVAL OUTSIDE MANHOLES SHALL BE WITHIN A VERTICAL LINE OFFSET ONE FOOT (1') OUTSIDE THE WIDEST DIMENSION OF THE STRUCTURE OR SHALL BE THE MAXIMUM CONNECTING TRENCH WIDTH, WHICHEVER IS GREATER.

MAXIMUM PAYMENT FOR ROCK EXCAVATION CHART

DEPTH FROM GROUND SURFACE TO INVERT OF PIPE	MAXIMUM PAY WIDTH 'W' NOMINAL PIPE DIA.	
	0"–24"	OVER 24"
DEPTH < 12'	5'–0"	D+3'–0"
12'< DEPTH < 20'	7'–0"	D+5'
DEPTH > 20'	9'–0"	D+7'

TRENCH IN ROCK PAYMENT LIMITS

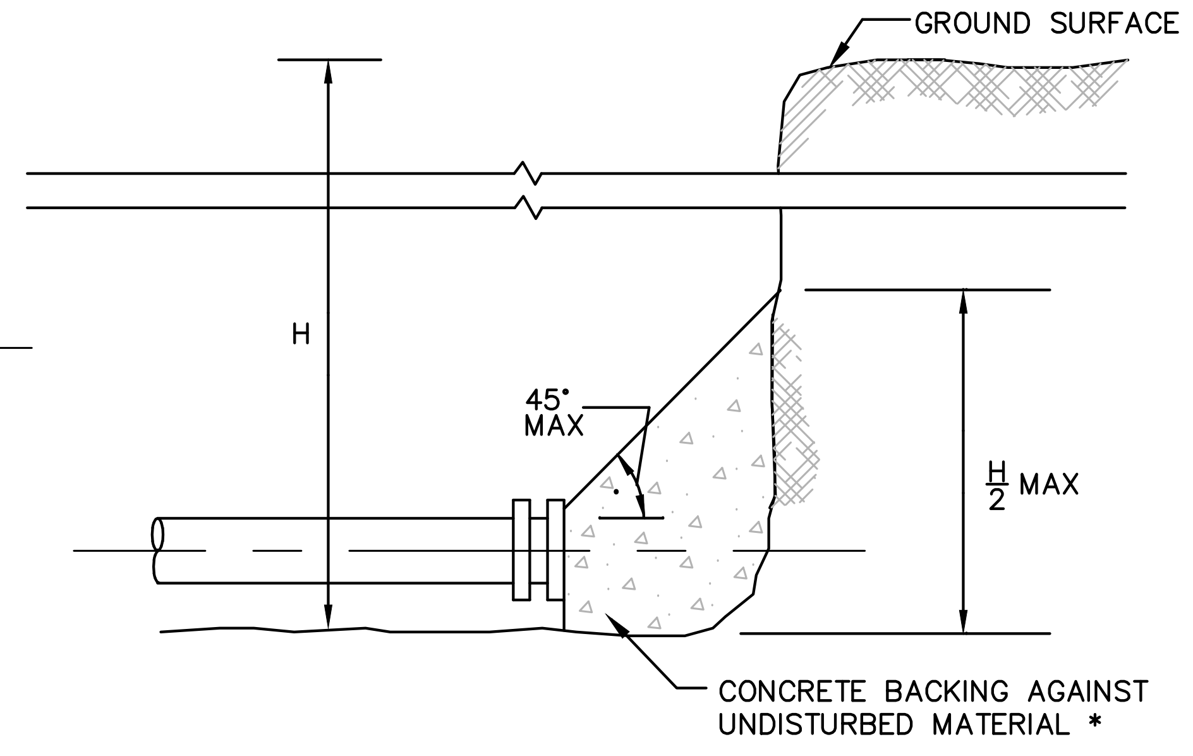
NTS



* SEE TABLE ON THRUST BLOCK BEARING AREAS FOR THE AREA OF CONCRETE REQUIRED.

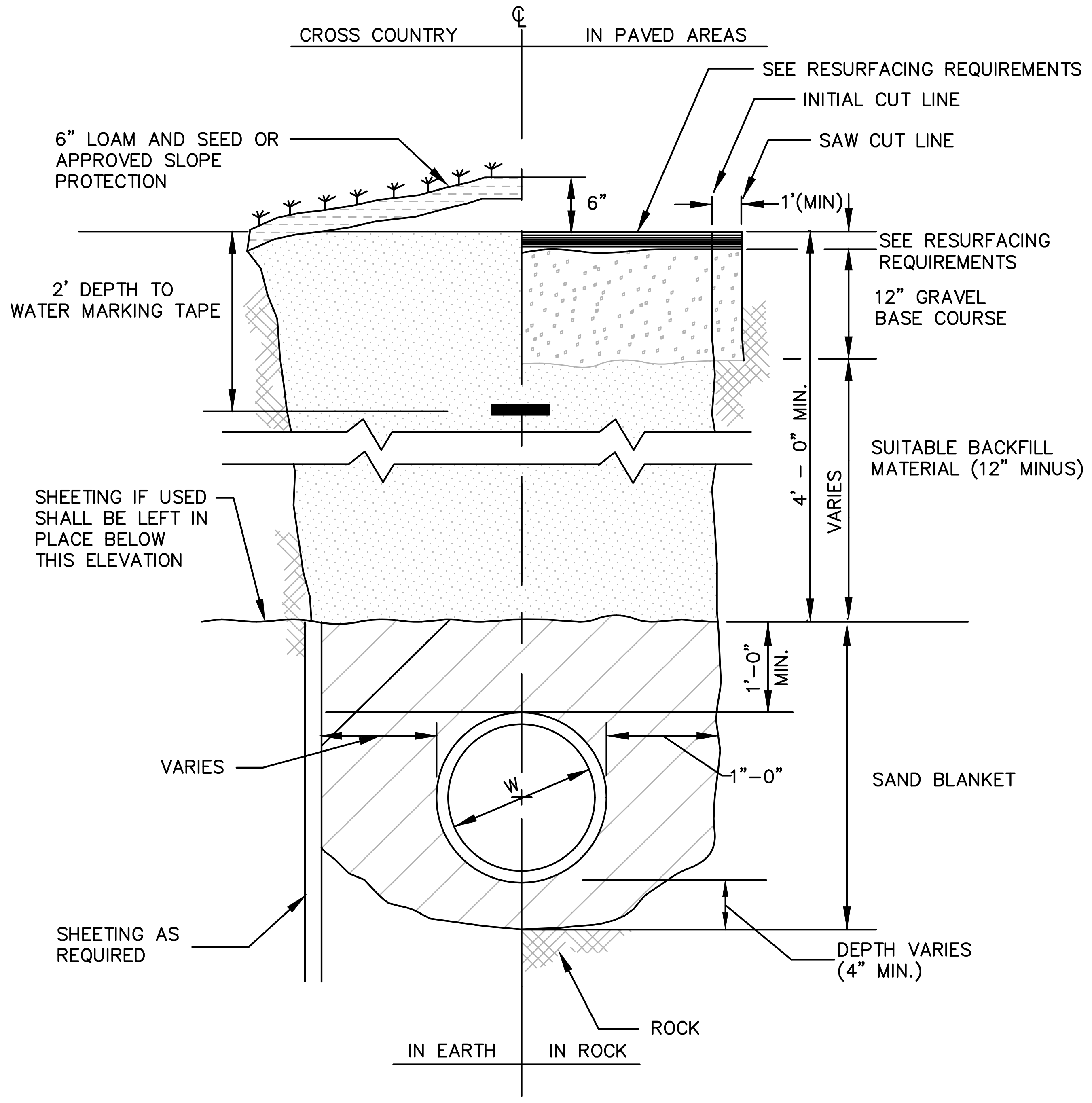
TYPICAL WATER MAIN TEE THRUST BLOCK DETAILS

NTS



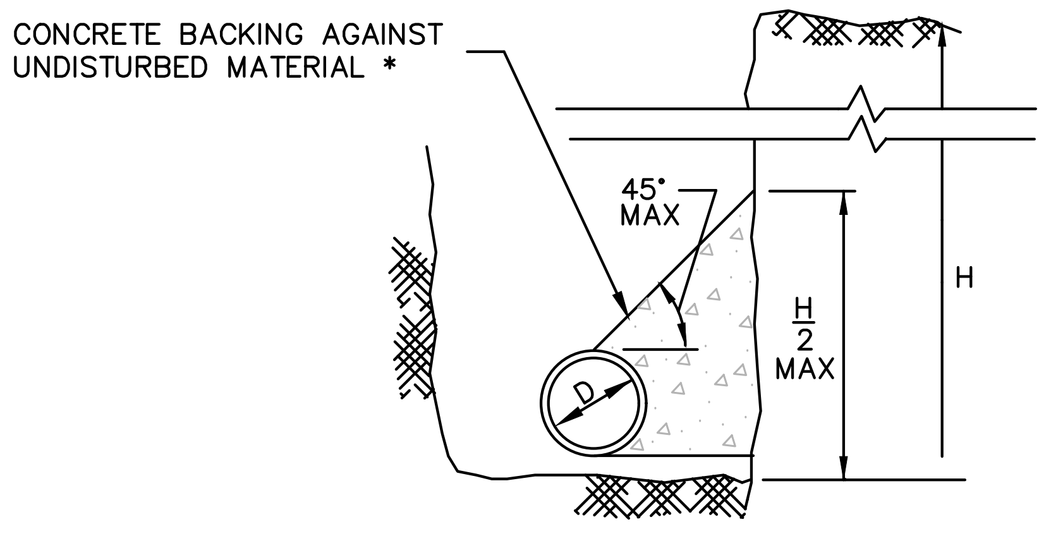
TYPICAL WATER MAIN PLUG

NTS


℄
CROSS COUNTRY
IN PAVED AREAS
SEE RESURFACING REQUIREMENTS
INITIAL CUT LINE
SAW CUT LINE
6" LOAM AND SEED OR APPROVED SLOPE PROTECTION
6"
1'(MIN)
SEE RESURFACING REQUIREMENTS
12" GRAVEL BASE COURSE
2' DEPTH TO WATER MARKING TAPE
4' – 0" MIN.
VARIES
SUITABLE BACKFILL MATERIAL (12" MINUS)
SHEETING IF USED SHALL BE LEFT IN PLACE BELOW THIS ELEVATION
1'–0" MIN.
VARIES
W
1"–0"
SAND BLANKET
SHEETING AS REQUIRED
DEPTH VARIES (4" MIN.)
ROCK
IN EARTH
IN ROCK

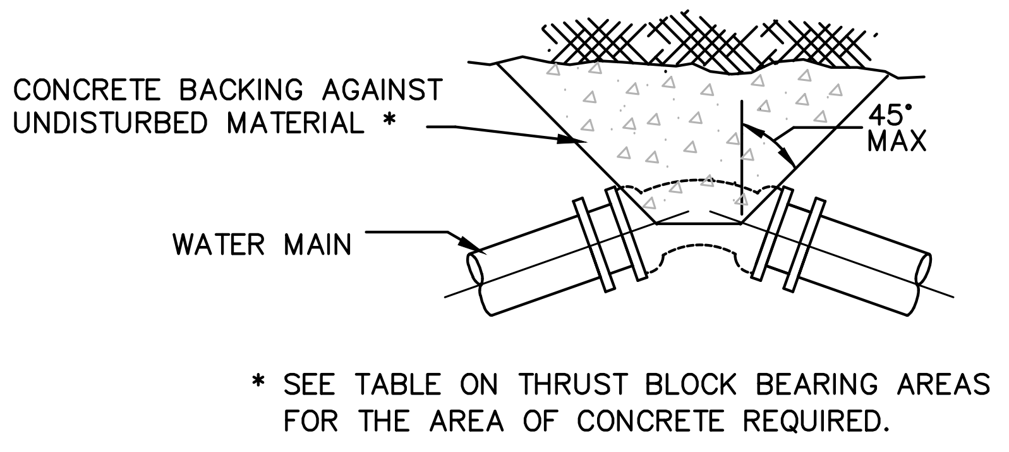
TYPICAL WATER MAIN/SERVICE TRENCH DETAIL

NOT TO SCALE



TYPICAL WATER MAIN THRUST BLOCK SECTION DETAILS

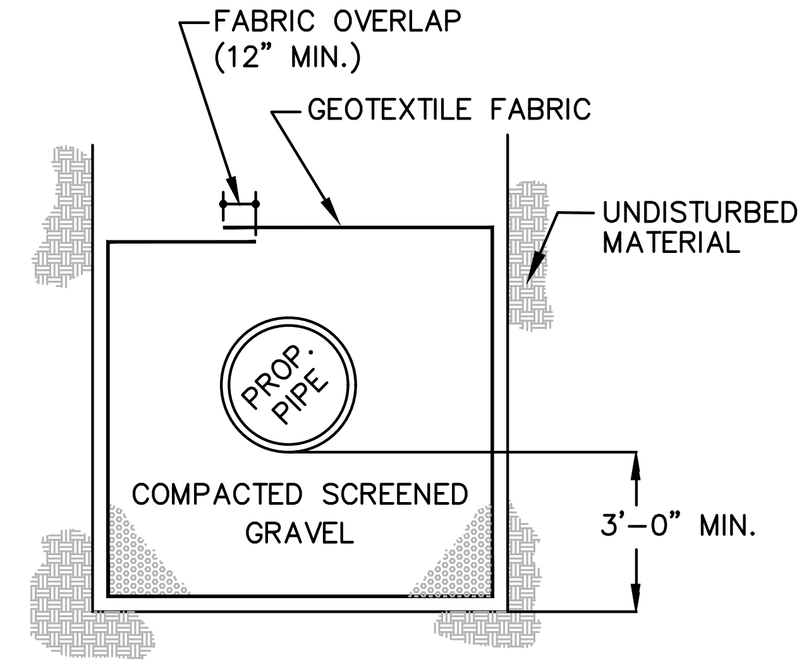
NTS



* SEE TABLE ON THRUST BLOCK BEARING AREAS FOR THE AREA OF CONCRETE REQUIRED.

TYPICAL WATER MAIN BEND THRUST BLOCK DETAILS

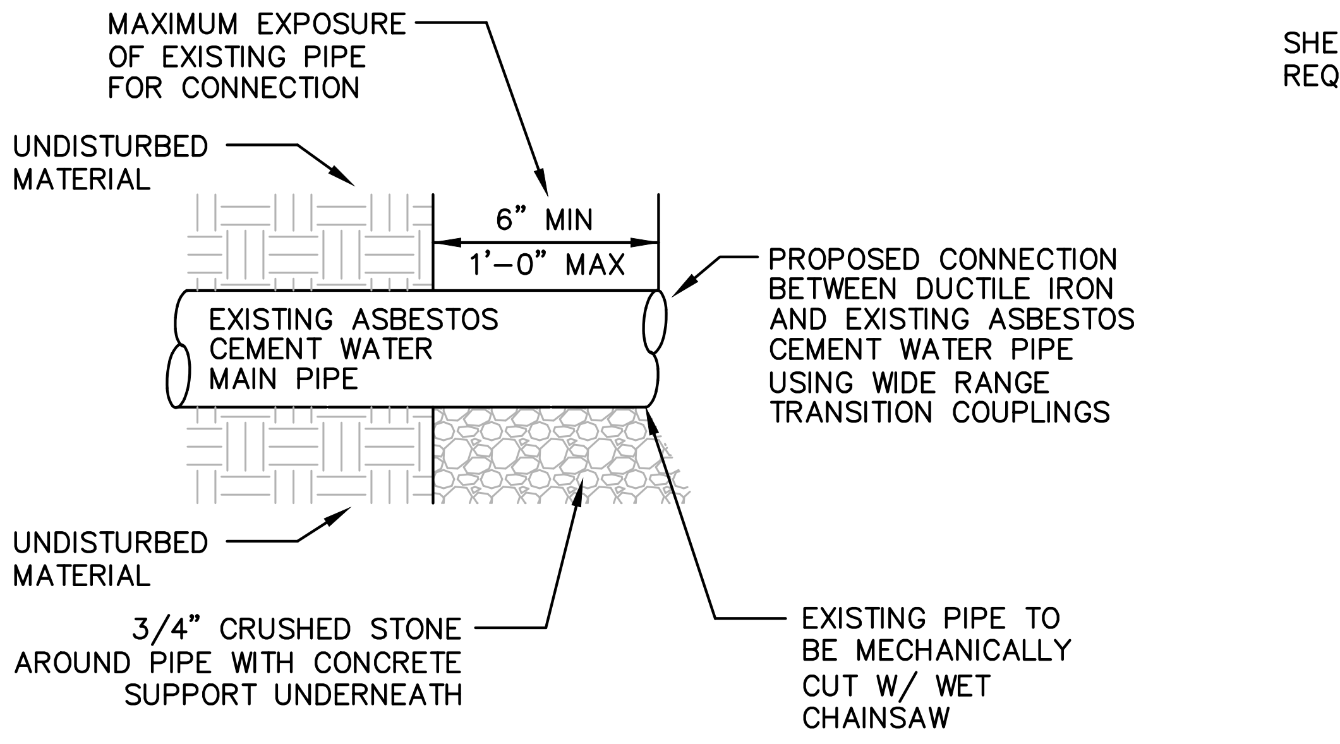
NTS



NOTE:
PLACEMENT OF GEOTEXTILE FABRIC SHALL EXTEND 5' ON EITHER SIDE OF POOR SUBGRADE CONDITIONS.

TRENCH EXCAVATION WITH UNSUITABLE SOIL CONDITIONS

NOT TO SCALE


MAXIMUM EXPOSURE OF EXISTING PIPE FOR CONNECTION
UNDISTURBED MATERIAL
6" MIN
1'–0" MAX
EXISTING ASBESTOS CEMENT WATER MAIN PIPE
PROPOSED CONNECTION BETWEEN DUCTILE IRON AND EXISTING ASBESTOS CEMENT WATER PIPE USING WIDE RANGE TRANSITION COUPLINGS
UNDISTURBED MATERIAL
3/4" CRUSHED STONE AROUND PIPE WITH CONCRETE SUPPORT UNDERNEATH
EXISTING PIPE TO BE MECHANICALLY CUT W/ WET CHAINSAW

NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING A CLEAN CONNECTION AND IF A ISSUE OCCURS WHILE THE PROJECT IS BEING CONSTRUCTED THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REPAIRS AT THEIR COST.
2. AFTER CUTTING THE PIPE IS VISUAL INSPECTION SHALL BE MADE INSIDE THE PIPE TO VERIFY THAT NO COLLAR IS WITHIN 5 FEET OF THE END OF THE CUT. IF A COLLAR IS FOUND WITHIN 5 FEET OF THE END OF THE CUT THE CONTRACTOR SHALL GO BACK TO THE COLLAR AND CUT THE PIPE AT THIS LOCATION. ALL CUTS SHALL BE UNDER THE UNIT PRICE ITEM 1N.

CONNECTION BETWEEN ASBESTOS CEMENT PIPE AND DUCTILE IRON PIPE

N.T.S.

THRUST BLOCK BEARING AREAS FOR WATER PIPE

TABLE OF BEARING AREAS IN SQ. FT. AGAINST UNDISTURBED MATERIAL FOR WATER MAIN FITTINGS*

SIZE OF MAIN (IN.)	90° BEND	TEES AND PLUGS	45° BEND
6	4	2.5	2
8	6	4	3
12	12	9	7
16	21	16	12

* TYPE OF SOIL IS MEDIUM CLAYEY, 6 OR MORE BLOWS PER FOOT, OR LOOSE GRANULAR, 9 OR MORE BLOWS PER FOOT. SOIL CONDITIONS OTHER THAN THOSE GIVEN WILL REQUIRE LARGER BEARING AREAS.

NOTES:

1. FOR FITTINGS WITH LESS THAN 45° DEFLECTION, USE BEARING AREAS FOR 45° BEND.
2. BEARING AREAS BASED ON HORIZONTAL PASSIVE SOIL PRESSURE OF 2000 P.S.F. AND INTERNAL WATER PRESSURE OF 150 P.S.I.G. JOINTS SHALL NOT BE ENCASED IN CONCRETE. BEARING AREAS MAY BE DISREGARDED FOR TRENCHES IN ROCK WHERE THE TOP OF THE ROCK FACE IS AT OR ABOVE THE CROWN OF THE PIPE. HOWEVER, CONCRETE BACKING SHALL BE PLACED BETWEEN THE PIPE AND THE ROCK FACE.
3. ALL FITTINGS AND VALVES SHALL BE DUCTILE IRON MECHANICAL JOINT AND RESTRAINED WITH MJ RESTRAINTS. (MEGALUG OR EQUAL). ALL BOLTS AND NUTS TO BE STAINLESS STEEL.
4. WATER MAINS SHALL BE C.L.D.I. CLASS 52 – DOUBLE CEMENT LINED.
5. ALL WORK RELATED TO THRUST BLOCKS SHALL BE PAID FOR UNDER THE CONCRETE ITEM.
3. HYDRANTS ARE REQUIRED TO BE RODDED IN ADDITION TO MJ RESTRAINTS. (MEGALUG OR EQUAL). ALL RODS, BOLTS AND NUTS TO BE STAINLESS STEEL.

TOWN OF FAIRHAVEN, MASSACHUSETTS
ROADWAY IMPROVEMENT PROJECT

CONSTRUCTION DETAILS II
WATER

GCG ASSOCIATES, INC.
WILMINGTON MASSACHUSETTS

Michael J. Carter
MICHAEL J. CARTER
CIVIL
No. 35907
4/6/2022

SCALE: AS NOTED
DATE: FEBRUARY 9, 2022

JOB NO.\FILE NAME: 1841.dwg
DESIGNED BY: L.P.B.
DRAWN BY: L.P.B.
CHECKED BY: M.J.C.
PLAN NO. 10 OF 13

GENERAL

THIS PLAN PROPOSES EROSION CONTROL MEASURES TO ADEQUATELY CONTROL ACCELERATED SEDIMENTATION AND REDUCE THE DANGER FROM STORM WATER RUNOFF AT THE SITE. THE RUNOFF SHALL BE CONTROLLED BY THE INTERCEPTION, DIVERSION, AND SAFE DISPOSAL OF PRECIPITATION. RUNOFF SHALL ALSO BE CONTROLLED BY STAGING CONSTRUCTION ACTIVITY AND PRESERVING NATURAL VEGETATION WHEREVER POSSIBLE.

EXISTING VEGETATION SHALL BE PROTECTED AND ONLY THAT CLEARING AND GRUBBING ABSOLUTELY NECESSARY TO THE PROPOSED CONSTRUCTION SHALL BE PERFORMED. ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND CONTOUR, UNLESS OTHERWISE INDICATED ON THE PLANS. THE CONTRACTOR SHALL TAKE SPECIAL CARE WITH HIS CONSTRUCTION METHODS AND SHALL COMPLY WITH THE FOLLOWING GUIDELINES.

SEDIMENTATION CONTROL

ALL AREAS SHALL BE PROTECTED FROM SEDIMENTATION DURING AND AFTER CONSTRUCTION, PARTICULARLY THE STORAGE OF EXCAVATED OR STOCKPILED MATERIAL. THE CONTRACTOR SHALL CAREFULLY STRIP ALL TOPSOIL, LOAM, OR ORGANIC MATTER PRIOR TO THE TRENCHING OR OTHER OPERATIONS AND SHALL STORE THEM SEPARATELY FROM ALL OTHER MATERIALS DURING EXCAVATION. EACH STOCKPILE MUST BE ADEQUATELY RINGED WITH SEDIMENT CONTROL MATERIAL (i.e., STRAW FILTER TUBES).

DEBRIS AND OTHER WASTE RESULTING FROM EQUIPMENT MAINTENANCE AND CONSTRUCTION WILL NOT BE DISCARDED ON SITE.

STABILIZING OF SLOPES SHALL BE DONE IMMEDIATELY AFTER CONSTRUCTION OF SLOPES. SLOPES STEEPER THAN 3:1 SHALL BE PROTECTED WITH EROSION MATS. THESE MATS ARE MANUFACTURED COMBINATIONS OF MULCH AND NETTING AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ALL OTHER AREAS SHALL BE MULCHED WITH STRAW AT A RATE OF 1.5 TO 2 TONS PER ACRE. STRAW MULCH MUST BE ANCHORED IMMEDIATELY AFTER SPREADING TO PREVENT WINDBLOWING.

EROSION AND SEDIMENTATION CONTROL PLAN

SEDIMENTATION CONTROL SYSTEM – THE SEDIMENTATION CONTROL SYSTEM SHALL CONSIST OF STRAW FILTER TUBES. THE SEDIMENTATION CONTROL SYSTEM SHALL BE INSTALLED IMMEDIATELY AFTER A CUT SLOPE HAS BEEN GRADED, BEFORE A FILL SLOPE HAS BEEN CREATED, AND AS INDICATED ON THE PLANS. DESIGN THE SYSTEM TO INTERCEPT SILT AND SEDIMENT BEFORE IT REACHES THE WETLANDS OR WATERCOURSES. DEPOSITS OF SEDIMENT AND SILT ARE TO BE PERIODICALLY REMOVED FROM THE UPSTREAM SIDE OF THE FENCE. THIS MATERIAL IS TO BE SPREAD AND STABILIZED IN AREAS NOT SUBJECT TO EROSION, OR IN AREAS WHICH ARE NOT TO BE PAVED OR BUILT ON. THE SEDIMENTATION CONTROL SYSTEM IS TO BE REPLACED AS NECESSARY TO PROVIDE PROPER FILTERING ACTION. THE SYSTEM IS TO REMAIN IN PLACE AND BE MAINTAINED TO INSURE EFFICIENT SILTATION CONTROL UNTIL ALL AREAS ABOVE THE FENCE ARE STABILIZED AND VEGETATION HAS BEEN ESTABLISHED.

STRAW FILTER TUBES (IN ADDITION TO CRUSHED STONE) USED FOR EROSION CONTROL SHALL BE RINGED AT CATCH BASINS LOCATED IN AREAS THAT WILL NOT BE PAVED AND WHERE SEDIMENT MAY ENTER THE CATCH BASIN OR AS DIRECTED BY THE RESIDENT ENGINEER. DEPOSITS OF SEDIMENT AND SILT ARE TO BE PERIODICALLY REMOVED FROM THE UPSTREAM SIDE OF THE EROSION CHECKS. THIS MATERIAL IS TO BE SPREAD AND STABILIZED IN AREAS NOT SUBJECT TO EROSION, OR IN AREAS WHICH ARE NOT TO BE PAVED OR BUILT ON. STRAW FILTER TUBES ARE TO BE REPLACED AS NECESSARY TO PROVIDE PROPER FILTERING ACTION. THE SYSTEM IS TO REMAIN IN PLACE AND BE MAINTAINED TO INSURE EFFICIENT SILTATION CONTROL UNTIL ALL AREAS ABOVE THE EROSION CHECKS ARE STABILIZED AND VEGETATION HAS BEEN ESTABLISHED.

SILT SACK – SILT SACKS SHALL BE PLACED WITHIN ALL CATCH BASINS PRIOR TO CONSTRUCTION OR IMMEDIATELY AFTER INSTALLATION OF NEW CATCH BASINS. DEPOSITS OF SEDIMENT ARE TO BE PERIODICALLY REMOVED DURING CONSTRUCTION AND SPREAD AS DESCRIBED ABOVE. SILT SACKS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE AND SURROUNDING AREAS ARE STABILIZED.

IN ALL AREAS, REMOVAL OF TREES, BUSHES, AND OTHER VEGETATION, AND DISTURBANCE TO THE SOIL, IS TO BE KEPT TO AN ABSOLUTE MINIMUM WHILE ALLOWING PROPER DEVELOPMENT OF THE SITE.

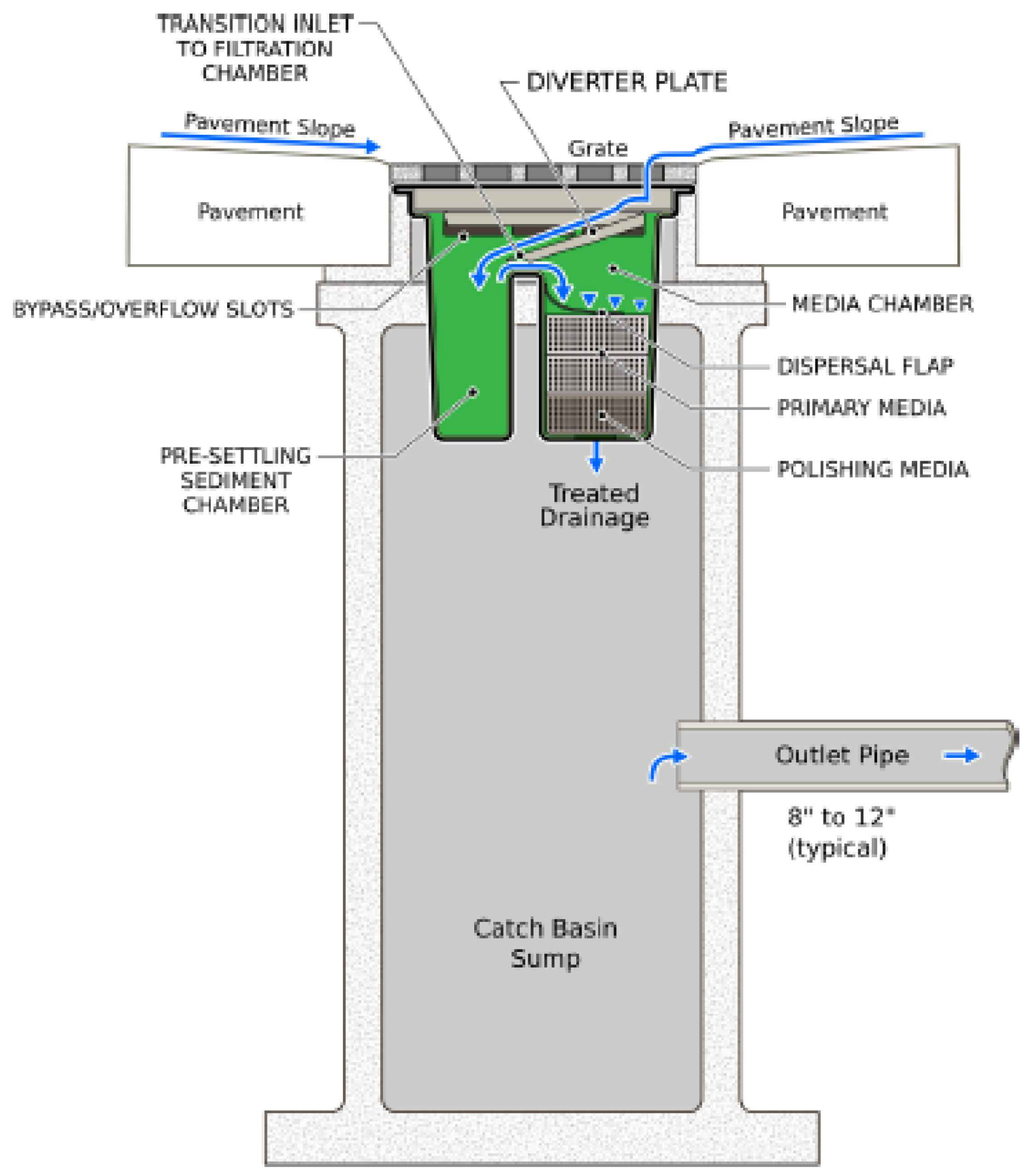
DEWATERING OF GROUNDWATER MAY BE NECESSARY DURING CONSTRUCTION. ALL DEWATERING ACTIVITIES SHALL BE CONDUCTED IN A MANNER THAT WILL NOT INTRODUCE SILT, SEDIMENT, CONTAMINATION, ETC. INTO A WETLAND RESOURCE AREA OR AN ADJACENT UPLAND RESOURCE AREA. DISCHARGED GROUNDWATER SHALL BE PROPERLY DETAINED, SETTLED, FILTERED OR OTHERWISE TREATED PRIOR TO ENTERING A WETLAND RESOURCE AREA OR AN ADJACENT UPLAND RESOURCE AREA (SEE DEWATERING DETAIL).

EROSION AND SEDIMENT CONTROL MAINTENANCE PROCEDURES

DURING CONSTRUCTION, AS SMALL AN AREA OF SOIL AS POSSIBLE SHOULD BE EXPOSED FOR AS SHORT A TIME AS POSSIBLE. AFTER CONSTRUCTION, GRADE, RESPREAD TOPSOIL, AND STABILIZE SOIL BY SEEDING AND MULCHING TO PREVENT EROSION.

ALL SEDIMENTATION AND EROSION CONTROL DEVICES SHALL BE INSPECTED DURING CONSTRUCTION ON A DAILY BASIS AND FOLLOWING ALL STORMS BY THE RESIDENT ENGINEER. THE CONTRACTOR SHALL MAINTAIN AND MAKE REPAIRS AND REMOVE SEDIMENT AS REQUESTED BY THE RESIDENT ENGINEER. THIS WORK SHALL BE PERFORMED WITHIN 24 HOURS OF REQUEST.

THE CONTRACTOR SHALL CLEAN SEDIMENT AND DEBRIS FROM ALL DRAINAGE STRUCTURES AND PIPES. AT THE COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL REPAIR ALL ERODED AREAS AND ENSURE A GOOD STAND OF TURF IS ESTABLISHED THROUGHOUT. THE CONTRACTOR SHALL REPAIR ALL ERODED OR DISPLACED RIPRAP, AND CLEAN SEDIMENT COVERED STONES.



The storm water runoff filtration system shall consist of a unit or units to be installed in existing or designed catch basins.

The water runoff filtration units shall be properly sized for the catch basin opening and predicted run-off.

The water runoff filtration system shall contain a pre-settling sediment chamber and a contaminant filtration chamber.

The media within the filtration chamber shall be a layered dual media system.

The first or primary filtration media shall consist of 8" in two or more mesh bags. This primary media shall be a non-leaching absorbent cellulose material that will attach hydrocarbons.

The second filter media shall consist of 4" of specially textured activated carbon to achieve a final polishing effect on the hydrocarbons in the discharge water as well as removing other organics, metals, and other contaminants.

Run-off water entering the unit shall be first diverted into the sediment chamber and from there shall flow into the filtering chamber through a transition inlet.

The units shall have sufficient overflow capacity to prevent ponding or flooding on the surface.

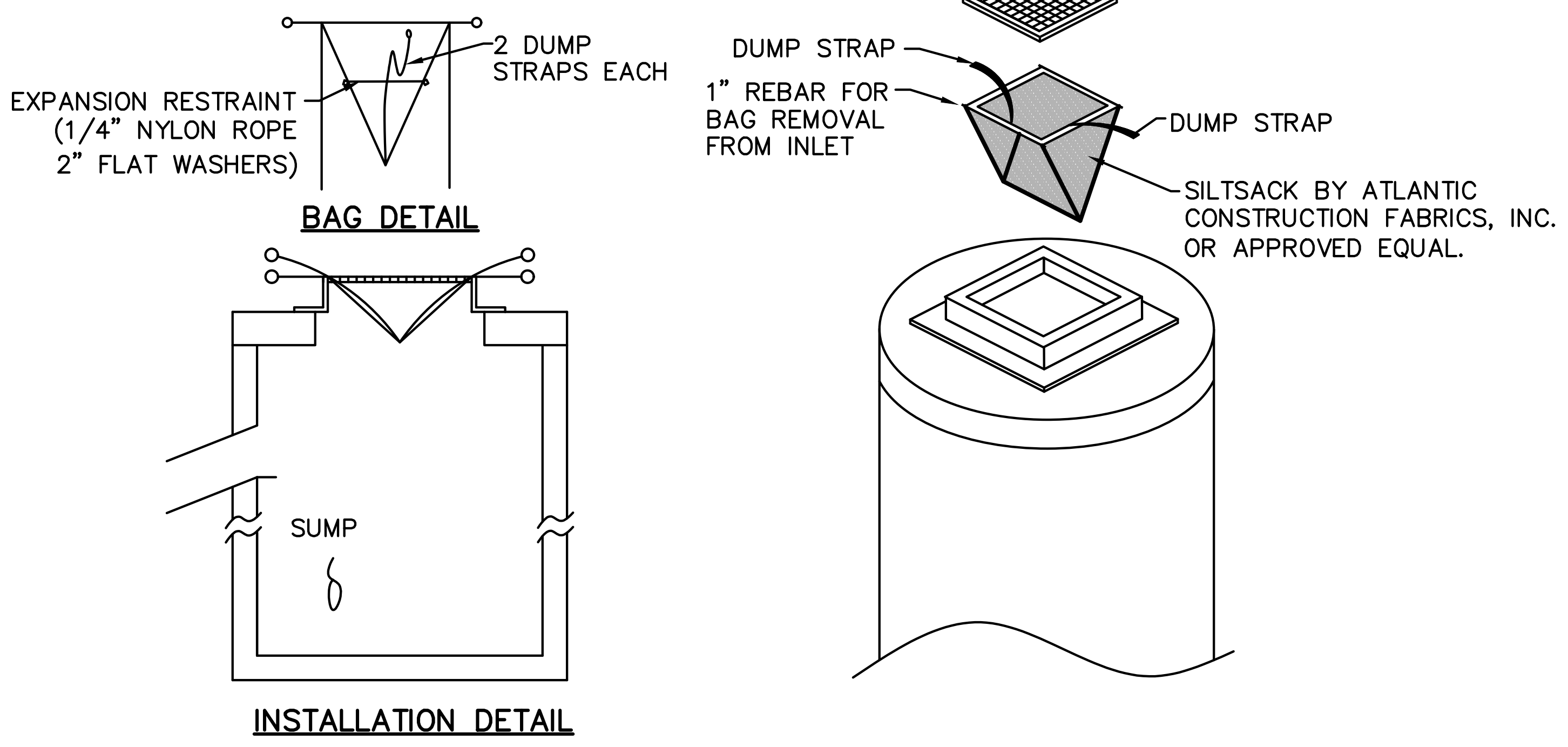
Filtration systems effectiveness shall be verified through third party testing.

The filtration system shall be the Ultra-HydroKleen® Stormwater Filtration System or equivalent.

ULTRA–HYDROKLEEN FILTRATION SYSTEM

N.T.S.

NOTES:
1. ULTRA–HYDROKLEEN FILTRATION SYSTEMS SHALL BE SIZED, FURNISHED AND INSTALLED DCB'S 1/2 AND CB'S 3/4.
2. ULTRA–HYDROKLEEN FILTRATION SYSTEMS TO BE INSTALLED AFTER TOP COURSE OF PAVING IS INSTALLED.
3. ULTRA–HYDROKLEEN FILTRATION SYSTEMS NOT REQUIRED IN CB'S 5/6.


EXPANSION RESTRAINT (1/4" NYLON ROPE 2" FLAT WASHERS)
2 DUMP STRAPS EACH
DUMP STRAP
1" REBAR FOR BAG REMOVAL FROM INLET
DUMP STRAP
SILTSACK BY ATLANTIC CONSTRUCTION FABRICS, INC. OR APPROVED EQUAL.
SUMP

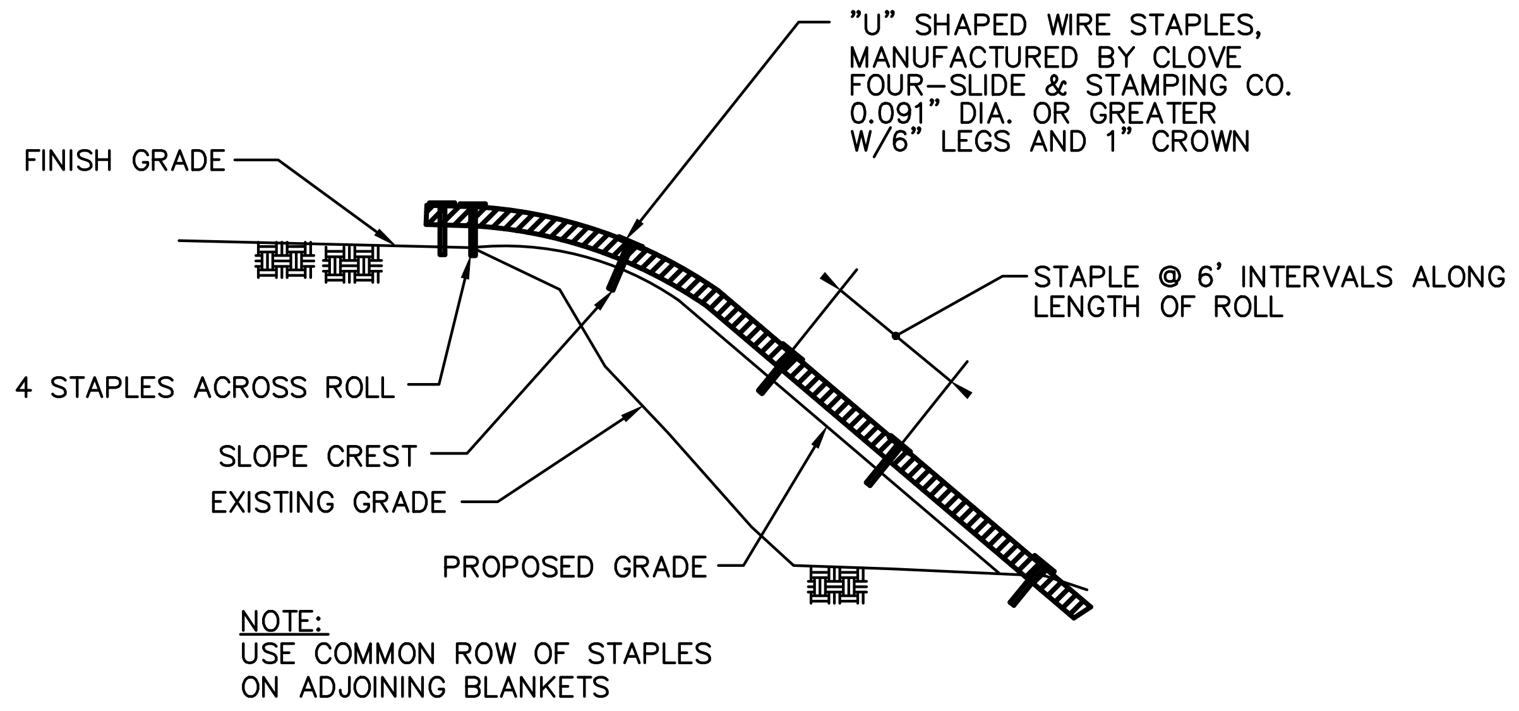
BAG DETAIL

INSTALLATION DETAIL

1. SILT SACKS SHALL BE INSTALLED IN ALL CATCH BASINS DURING CONSTRUCTION PERIOD.
2. INSPECTION SHALL BE WEEKLY AND REPAIR/REPLACEMENT MADE PROMPTLY AS NEEDED.
3. SILT SACKS SHALL BE KEPT CLEAN AND FREE OF DEBRIS.

SILTSACK DETAIL

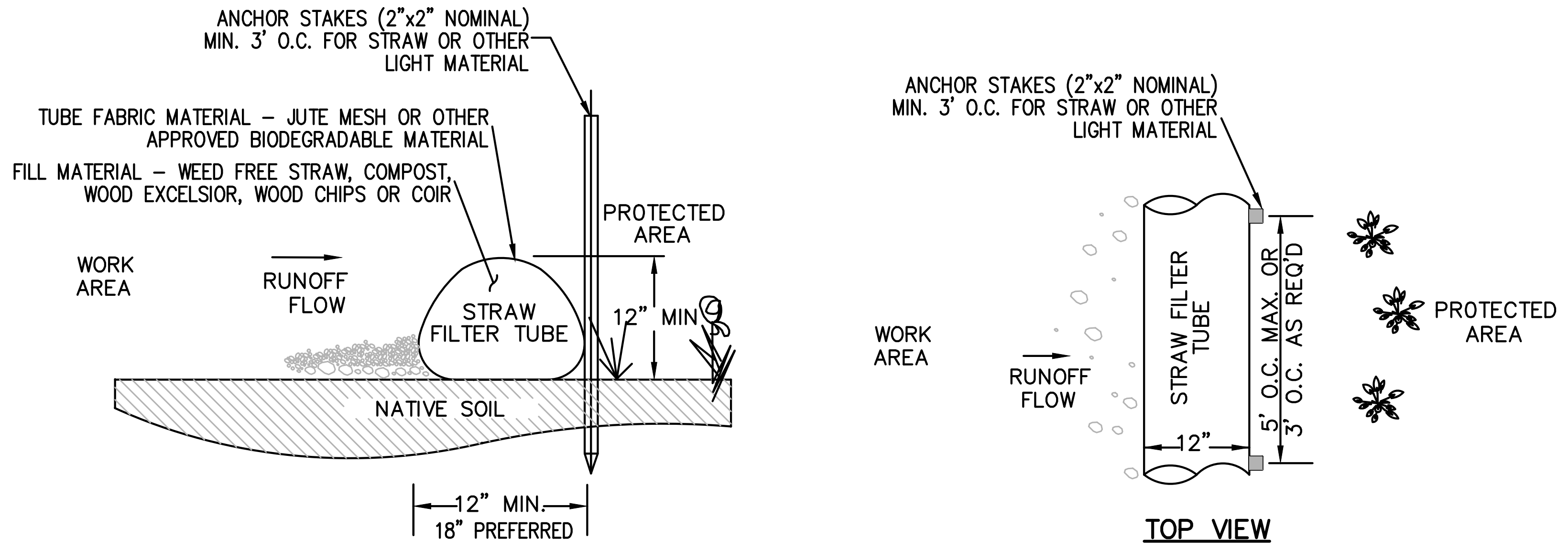
N.T.S.


"U" SHAPED WIRE STAPLES, MANUFACTURED BY CLOVE FOUR–SLIDE & STAMPING CO. 0.091" DIA. OR GREATER W/6" LEGS AND 1" CROWN
FINISH GRADE
STAPLE @ 6' INTERVALS ALONG LENGTH OF ROLL
4 STAPLES ACROSS ROLL
SLOPE CREST
EXISTING GRADE
PROPOSED GRADE

NOTE:
USE COMMON ROW OF STAPLES ON ADJOINING BLANKETS

EROSION CONTROL BLANKET DETAIL

N.T.S.


ANCHOR STAKES (2"x2" NOMINAL) MIN. 3' O.C. FOR STRAW OR OTHER LIGHT MATERIAL
TUBE FABRIC MATERIAL – JUTE MESH OR OTHER APPROVED BIODEGRADABLE MATERIAL
FILL MATERIAL – WEED FREE STRAW, COMPOST, WOOD EXCELSIOR, WOOD CHIPS OR COIR
PROTECTED AREA
WORK AREA
RUNOFF FLOW
STRAW FILTER TUBE
12" MIN
NATIVE SOIL
12" MIN. 18" PREFERRED
ANCHOR STAKES (2"x2" NOMINAL) MIN. 3' O.C. FOR STRAW OR OTHER LIGHT MATERIAL
WORK AREA
RUNOFF FLOW
STRAW FILTER TUBE
12"
5' O.C. MAX. OR 3' O.C. AS REQ'D
PROTECTED AREA

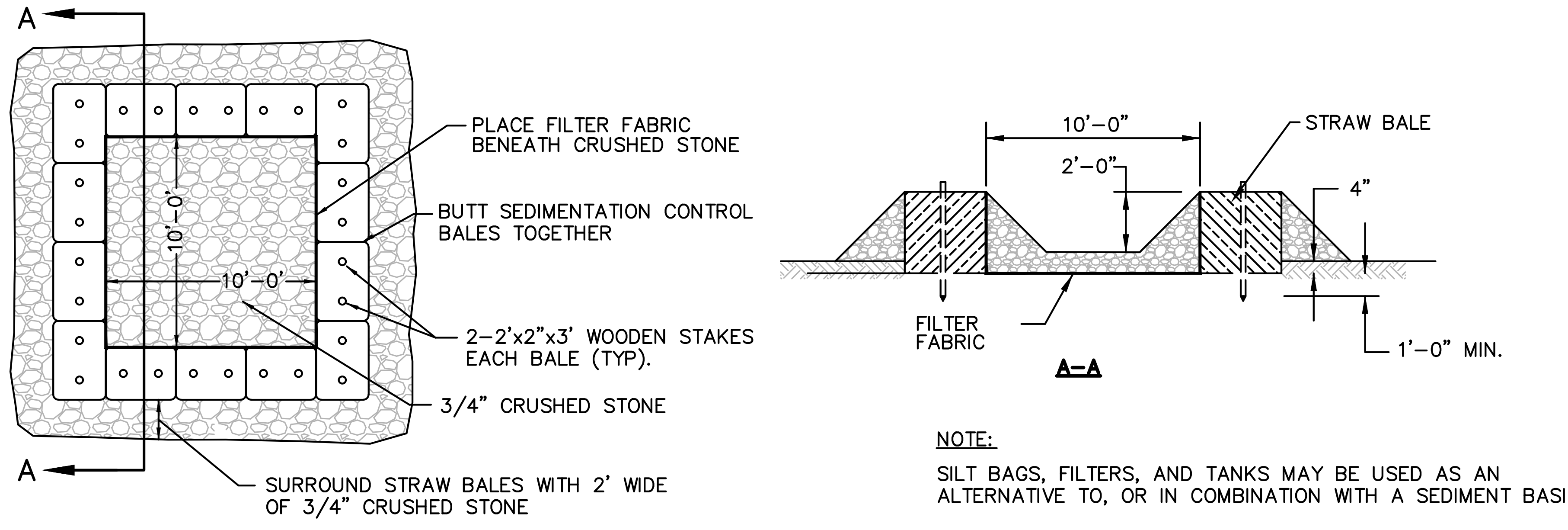
END VIEW

TOP VIEW

NOTES:
1. TUBES MAY BE FILLED ON SITE OR SHIPPED.
2. ENSURE PROPER LOCATION AT SITE FOR EFFECTIVENESS.
3. TUBES SHALL BE PLACED AND STAKED IN PLACE AS REQUIRED TO ENSURE STABILITY AGAINST WATER FLOWS.
4. TUBES FILLED WITH LIGHT MATERIAL SHALL BE STAKED AT A MAXIMUM OF 3 FEET ON CENTER. FOR HEAVIER MATERIAL, 5 FEET ON CENTER.
5. TUBES SHALL BE TAMPED TO ENSURE GOOD CONTACT WITH SOIL.
6. INSPECT AFTER EACH RAINFALL OR DAILY DURING RAINFALL EVENTS. CORRECT ALL DEFICIENCIES IMMEDIATELY.
7. FAILURE INCLUDES BUT IS NOT LIMITED TO WASHOUT, OVERTOPPING, CLOGGING, AND EROSION. IF OVERTOPPING OR WASHOUT OCCURS, NEW FILTER TUBES WITH ADDITIONAL STAKING OR STRAW MATERIAL SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER.
8. FILTER TUBES SHALL BE REMOVED ONCE SITE WORK IS COMPLETE, SITE IS STABLE, ADEQUATE GROWTH HAS BEEN ESTABLISHED AND AS DIRECTED BY THE ENGINEER. TUBE FABRIC SHALL BE CUT, REMOVED AND DISPOSED OF OFF–SITE BY THE CONTRACTOR AT NO ADDITIONAL COST.

STRAW FILTER TUBE DETAIL

N.T.S.


A
A
PLACE FILTER FABRIC BENEATH CRUSHED STONE
BUTT SEDIMENTATION CONTROL BALES TOGETHER
10'–0'
10'–0'
2–2'x2"x3' WOODEN STAKES EACH BALE (TYP).
3/4" CRUSHED STONE
SURROUND STRAW BALES WITH 2' WIDE OF 3/4" CRUSHED STONE
10'–0"
2'–0"
STRAW BALE
4"
FILTER FABRIC
1'–0" MIN.

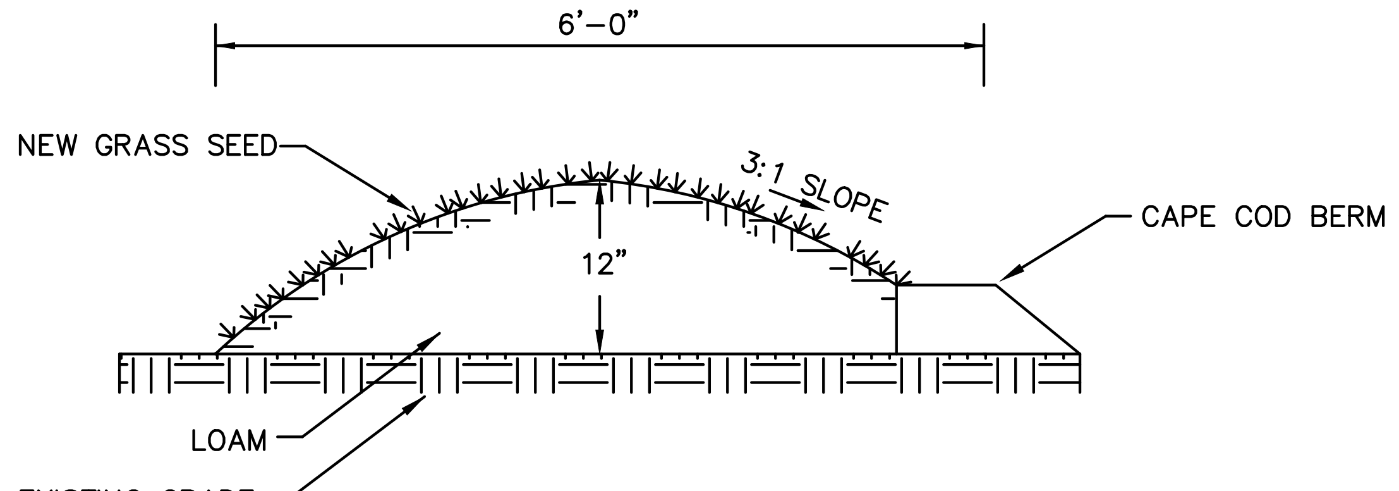
PLAN

A–A

NOTE:
SILT BAGS, FILTERS, AND TANKS MAY BE USED AS AN ALTERNATIVE TO, OR IN COMBINATION WITH A SEDIMENT BASIN.

SEDIMENTATION CONTROL SYSTEM FOR ONSITE DEWATERING

N.T.S.



GRASS BERM DETAIL

NOT TO SCALE

TOWN OF FAIRHAVEN, MASSACHUSETTS
ROADWAY IMPROVEMENT PROJECT

EROSION CONTROL PLAN

GCG ASSOCIATES, INC.
WILMINGTON MASSACHUSETTS

SCALE: AS NOTED
DATE: FEBRUARY 9, 2022

JOB NO.\FILE NAME: 1841.dwg

DESIGNED BY: L.P.B.
DRAWN BY: L.P.B.
CHECKED BY: M.J.C.

PLAN NO. 11 OF 13

Michael J. Carter
MICHAEL J. CARTER
CIVIL
No. 35907
4/6/2022

NOTES:

1. ALL TEMPORARY TRAFFIC CONTROL WORK SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND ALL REVISIONS, UNLESS SUPERCEDED BY THESE PLANS.
2. ALL SIGN LEGENDS, BORDERS, AND MOUNTING SHALL BE IN ACCORDANCE WITH THE MUTCD.
3. TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
4. TEMPORARY CONSTRUCTION SIGNING, BARRICADES, AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE HIGHWAY OR COVERED WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
5. SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY, CHANNELIZING DEVICES, BARRIERS, AND CRASH ATTENUATORS MUST PASS THE CRITERIA SET FORTH IN NCHRP REPORT 350, "RECOMMENDED PROCEDURES FOR THE SAFETY PERFORMANCE EVALUATION OF HIGHWAY FEATURES" AND/OR "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH).
6. CONTRACTORS SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS CONDUIT INSTALLATION, EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT, AND SIMILAR OPERATIONS.

8. THE ADVISORY SPEED LIMIT, IF REQUIRED, SHALL BE DETERMINED BY THE ENGINEER.
9. DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
10. MAXIMUM SPACING OF TRAFFIC DEVICES IN A TAPER (DRUMS OR CONES) IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH.
11. MINIMUM LANE WIDTH IS TO BE 11 FEET (3.3m) UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF DRUMS OR MEDIAN BARRIER.
12. ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS.

LEGEND:

●	REFLECTORIZED PLASTIC DRUM OR 36" CONE
P/F	POLICE/FLAGGER DETAIL
▨	TYPE III BARRICADE
▭	CHANGEABLE MESSAGE SIGN
●●●	ARROW BOARD
▨	WORK ZONE
➡	DIRECTION OF TRAFFIC
▦	IMPACT ATTENUATOR
▭	MEDIAN BARRIER
⊟	MEDIAN BARRIER WITH WARNING LIGHTS
▭	WORK VEHICLE
⊠	TRUCK MOUNTED ATTENUATOR
◀─●	TRAFFIC OR PEDESTRIAN SIGNAL
─●─	SIGN

THE IDEAL CAPACITY OF A MAJOR HIGHWAY IS GENERALLY CONSIDERED TO BE 1900 PASSENGER CARS PER HOUR PER LANE (PCPHPL). IN WORK ZONES ON A MULTI-LANE DIVIDED HIGHWAY, THE FOLLOWING VOLUME GUIDELINES HAVE BEEN SUGGESTED:

MEASURED AVERAGE WORK ZONE CAPACITIES

NUMBER OF LANES		NUMBER OF STUDIES	AVERAGE CAPACITY	
NORMAL (EXISTING)	OPEN (TO TRAFFIC)		VPH	VPHPL
3	1	7	1,170	1,170
2	1	8	1,340	1,340
5	2	8	2,740	1,370
4	2	4	2,960	1,480
3	2	9	2,980	1,490
4	3	4	4,560	1,520

Source: Dudek, C., Notes on Work Zone Capacity and Level of Service. Texas Transportation Institute, Texas A&M University, College Station, Texas (1984)

BY OBTAINING HOURLY TRAFFIC COUNTS FOR A PARTICULAR ROADWAY (WITH A MINIMUM OF A 48-HOUR AUTOMATIC TRAFFIC RECORDER (ATR) COUNT), THIS WILL HELP TO DETERMINE AT WHAT TIMES OF THE DAY OR NIGHT A CERTAIN NUMBER OF LANES MAY BE CLOSED.

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FIGURE GEN-1

GENERAL GUIDELINES

SUGGESTED WORK ZONE WARNING SIGN SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS **		
	A	B	C
LOCAL OR LOW VOLUME ROADWAYS*	350 (100)	350 (100)	350 (100)
MOST OTHER ROADWAYS*	500 (150)	500 (150)	500 (150)
FREEWAYS AND EXPRESSWAYS*	1,000 (300)	1,500 (450)	2,640 (800)

* ROAD TYPE TO BE DETERMINED BY MASSDOT OFFICE OF TRANSPORTATION PLANNING.

** DISTANCES ARE SHOWN IN FEET (METERS). THE COLUMN HEADINGS A, B, AND C ARE THE DIMENSIONS SHOWN IN THE DETAIL/ TYPICAL SETUP FIGURES. THE A DIMENSION IS THE DISTANCE FROM THE TRANSITION OR POINT OF RESTRICTION TO THE FIRST SIGN. THE B DIMENSION IS THE DISTANCE BETWEEN THE FIRST AND SECOND SIGNS. THE C DIMENSION IS THE DISTANCE BETWEEN THE SECOND AND THIRD SIGNS. (THE "THIRD" SIGN IS THE FIRST ONE TYPICALLY ENCOUNTERED BY A DRIVER APPROACHING A TEMPORARY TRAFFIC CONTROL (TTC) ZONE.)

THE "THIRD" SIGN ABOVE IS TYPICALLY REFERRED TO AS AN "ADVANCE WARNING" SIGN ON THE TTCP SETUPS. THESE ADVANCE WARNING SIGNS ARE LOCATED PRIOR TO THE PROJECT LIMITS ON ALL APPROACHES (i.e. THE W20-1 SERIES (ROAD WORK XX FT) SIGNS), AND USUALLY REMAIN FOR THE DURATION OF THE PROJECT. ADDITIONAL SIGNS (i.e. "RIGHT LANE CLOSED 1 MILE" AND "LEFT LANE CLOSED 1 MILE") HAVE BEEN SHOWN IN SOME FIGURES AS EXAMPLES OF REINFORCEMENT SIGN PLACEMENT BUT ARE USED IN RARE OCCASIONS.

THE FIRST AND SECOND WARNING SIGNS ABOVE ARE REFERRED TO AS THE OPERATIONAL (DAY-TO-DAY) WORK ZONE SIGNS AND MAY BE MOVED DEPENDING ON WHERE THE SPECIFIC ROADWAY WORK FOR THAT DAY IS LOCATED.

R2-10a SIGNS SHALL BE PLACED BETWEEN THE SECOND AND THIRD SIGNS AS DESCRIBED ABOVE.

R2-10a, R2-10e, AND W20-1 SERIES SIGNS ARE TO BE INCLUDED ON ALL DETAILS/TYPICAL SETUPS.

Based on: Table 6C-1 MUTCD LATEST EDITION

STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED

SPEED* (km/h)	DISTANCE (m)
30	35
40	50
50	65
60	85
70	105
80	130
90	160
100	185
110	220
120	250

SPEED* (mph)	DISTANCE (ft)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730
75	820

*POSTED SPEED, OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED

THESE VALUES MAY BE USED TO DETERMINE THE LENGTH OF LONGITUDINAL BUFFER SPACES.

THE DISTANCES IN THE ABOVE CHART REPRESENT THE MINIMAL VALUES FOR BUFFER SPACING.

Source: Table 6C-2 MUTCD LATEST EDITION

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FIGURE GEN-2

NOTES ON WORK ZONE DISTANCES

CONVENTIONAL ROADWAY– A STREET OR HIGHWAY OTHER THAN A LOW-VOLUME ROAD, EXPRESSWAY, OR FREEWAY.

EXPRESSWAY– A DIVIDED HIGHWAY WITH PARTIAL CONTROL OF ACCESS.

FREEWAY– A DIVIDED HIGHWAY WITH FULL CONTROL OF ACCESS.

LOW-VOLUME ROAD– A FACILITY LYING OUTSIDE OF BUILT-UP AREAS OF CITIES, TOWNS, AND COMMUNITIES, AND IT SHALL HAVE A TRAFFIC VOLUME OF LESS THAN 400 AADT. IT SHALL NOT BE A FREEWAY, EXPRESSWAY, INTERCHANGE RAMP, FREEWAY SERVICE ROAD OR A ROAD ON A DESIGNATED STATE HIGHWAY SYSTEM.

Source: MUTCD LATEST EDITION

TAPER LENGTH CRITERIA FOR TEMPORARY TRAFFIC CONTROL ZONES

TYPE OF TAPER	TAPER LENGTH (L)*
MERGING TAPER	AT LEAST L
SHIFTING TAPER	AT LEAST 0.5L
SHOULDER TAPER	AT LEAST 0.33L
ONE-LANE, TWO-WAY TRAFFIC TAPER	50 FT MIN.(15 m) 100 FT(30 m) MAX.
DOWNSTREAM TAPER	50 FT MIN.(15 m) 100 FT MAX.(30 m) PER LANE

Source: Table 6C-3 MUTCD LATEST EDITION

FORMULAS FOR DETERMINING TAPER LENGTHS

SPEED LIMIT (S)	TAPER LENGTH (L) FEET
40 MPH OR LESS	$L=\frac{WS^2}{60}$
45 MPH OR MORE	$L= WS$

SPEED LIMIT (S)	TAPER LENGTH (L) Meters
60 KM/H OR LESS	$L=\frac{WS^2}{155}$
70 KM/H OR MORE	$L=\frac{WS}{1.6}$

WHERE: L = TAPER LENGTH IN FEET (METERS)
W = WIDTH OF OFFSET IN FEET (METERS)
S = POSTED SPEED LIMIT, OR OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICAPATED OPERATING SPEED IN MPH (KM/H)

Source: Table 6C-4 MUTCD LATEST EDITION

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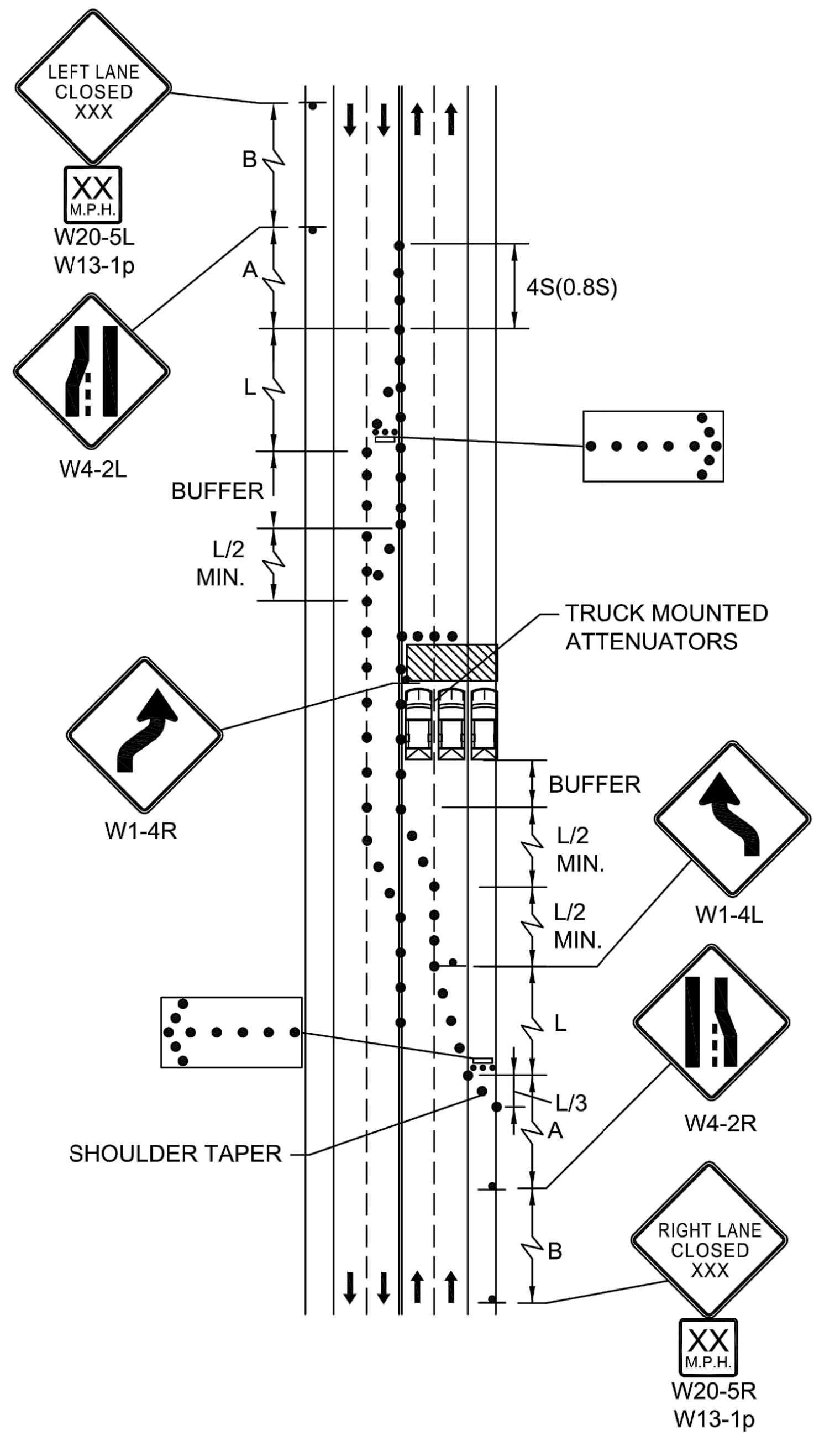
FIGURE GEN-3

NOTES ON WORK ZONE DISTANCES



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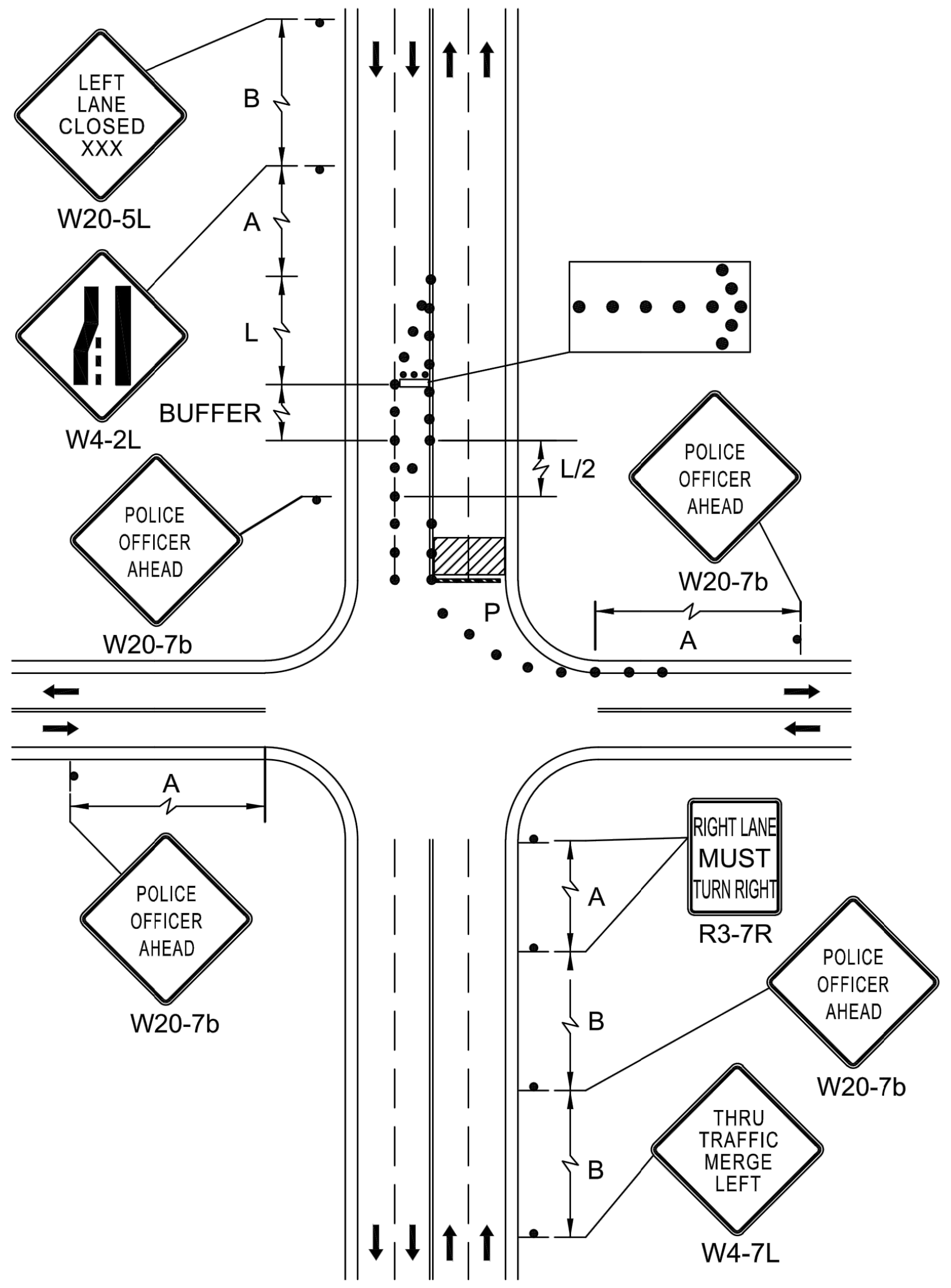
Standard
Details and Drawings
for the
Development of
Temporary Traffic Control Plans

FIGURE MLR-3

MULTIPLE LANE ROAD
HALF ROAD CLOSURE

NOT TO SCALE



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Details and Drawings
for the
Development of
Temporary Traffic Control Plans

FIGURE INT-5

DOUBLE LANE APPROACH
HALF ROAD CLOSURE

NOT TO SCALE

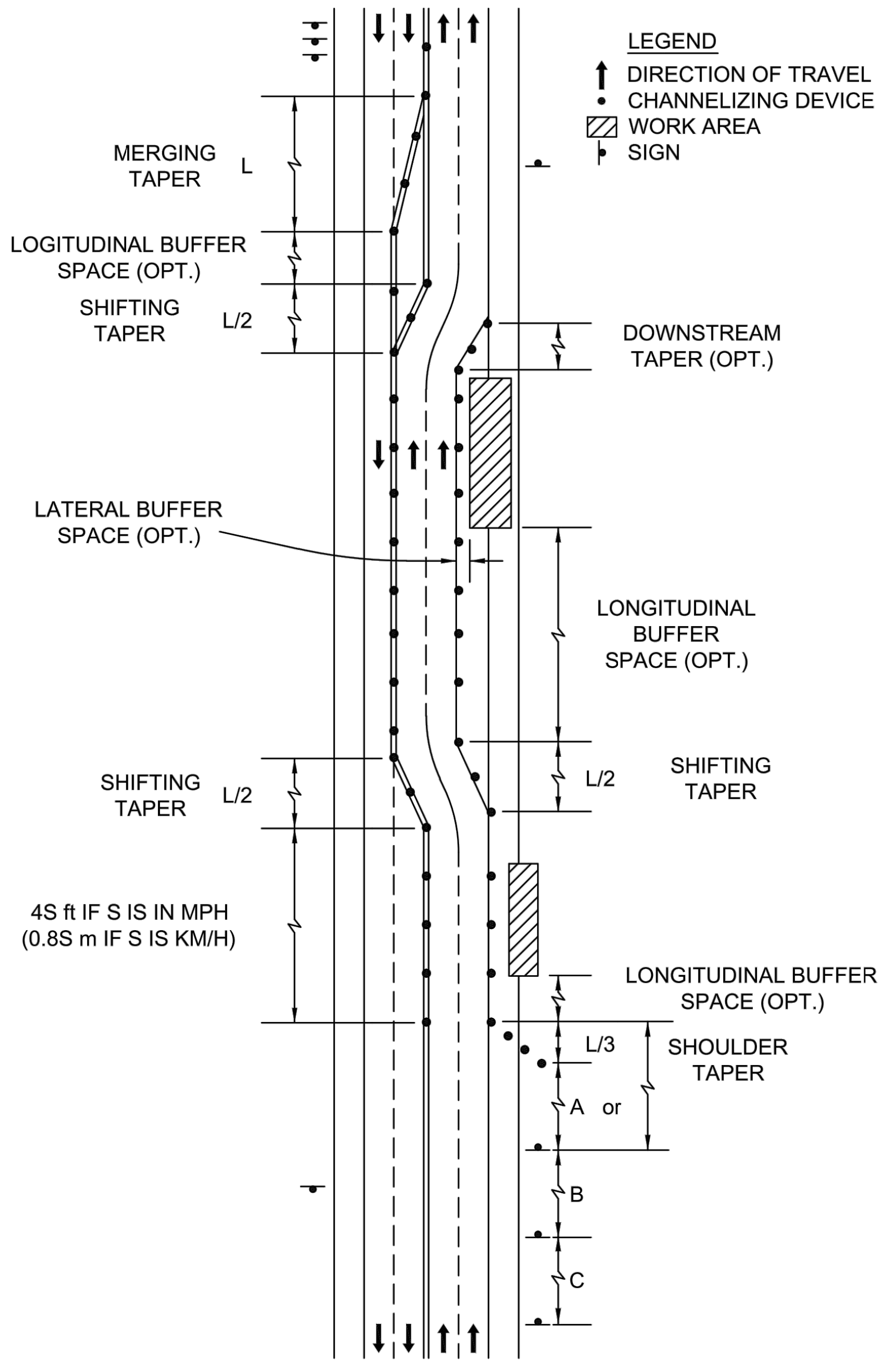

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FIGURE GEN-5

TYPES OF TAPERS AND BUFFER SPACES

NOT TO SCALE

Michael J. Carter

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4/6/2022

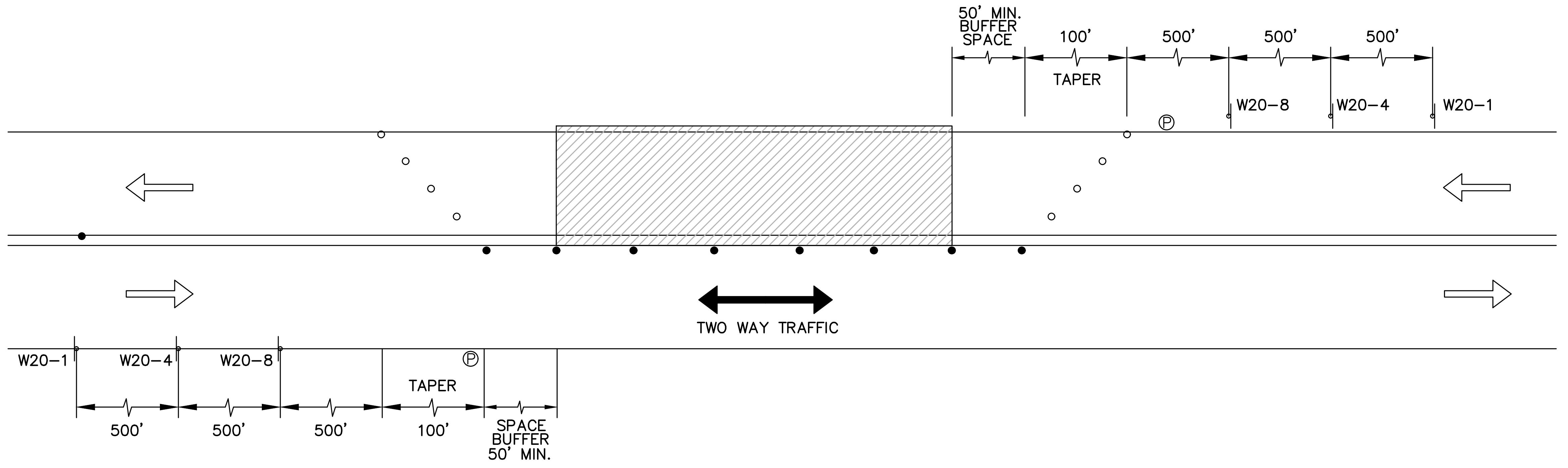
TOWN OF FAIRHAVEN, MASSACHUSETTS
ROADWAY IMPROVEMENT PROJECT

CONSTRUCTION DETAILS III
TRAFFIC CONTROL-1

GCG ASSOCIATES, INC.
WILMINGTON MASSACHUSETTS

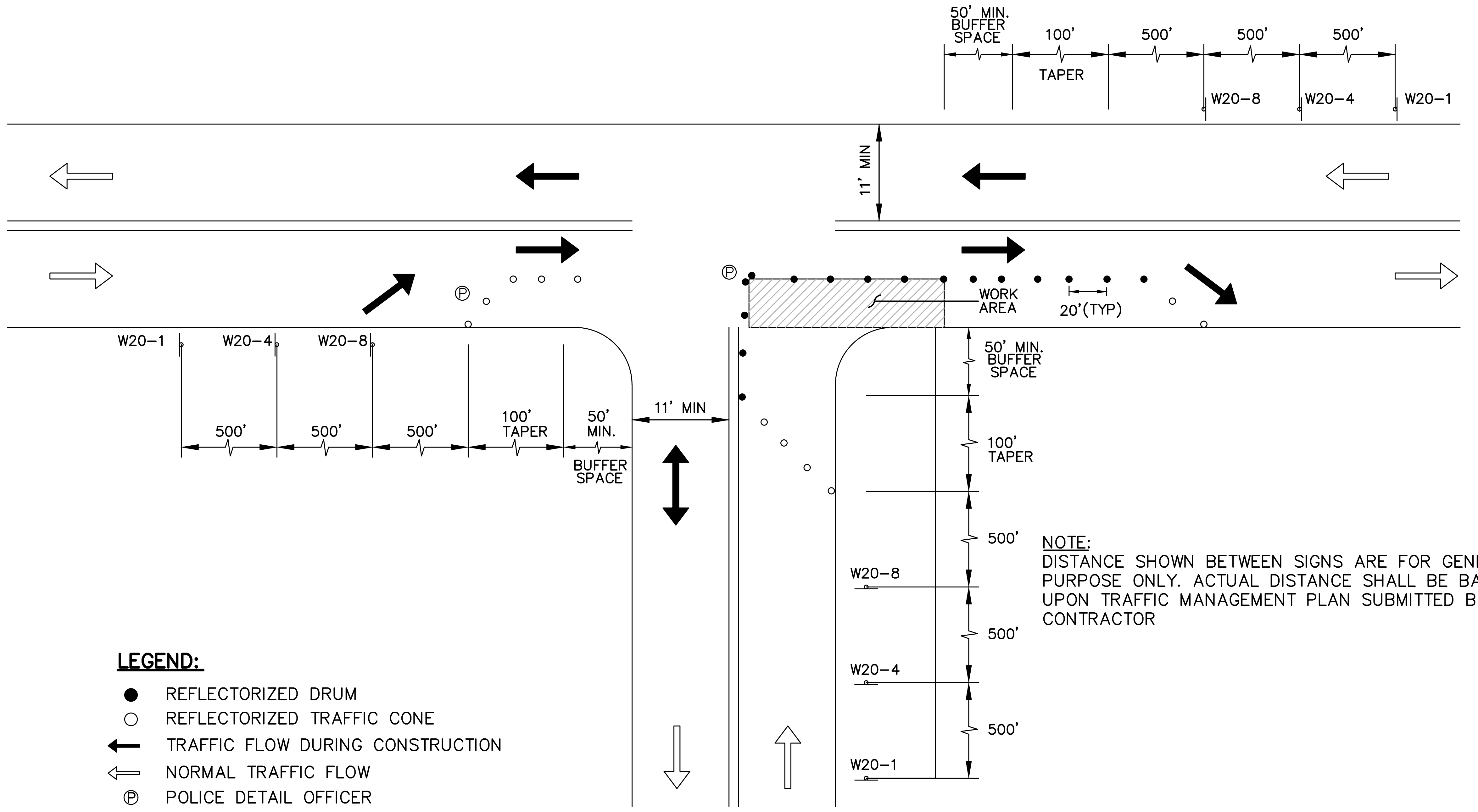
SCALE: AS NOTED
DATE: FEBRUARY 9, 2022

JOB NO.\FILE NAME: 1841.dwg
DESIGNED BY: L.P.B.
DRAWN BY: L.P.B.
CHECKED BY: M.J.C.
PLAN NO. 12 OF 13



ONE LANE ALTERNATING TRAFFIC DAILY LANE CLOSURE

N.T.S.



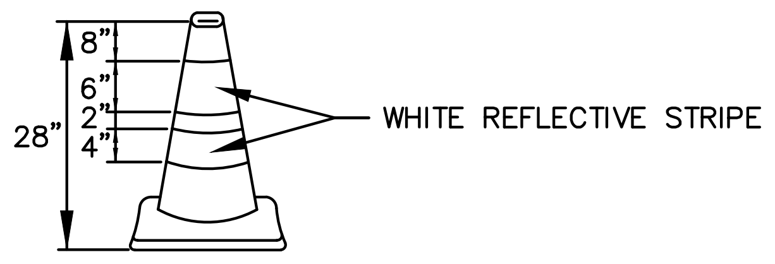
NOTE:
DISTANCE SHOWN BETWEEN SIGNS ARE FOR GENERAL PURPOSE ONLY. ACTUAL DISTANCE SHALL BE BASED UPON TRAFFIC MANAGEMENT PLAN SUBMITTED BY CONTRACTOR

LEGEND:

●	REFLECTORIZED DRUM
○	REFLECTORIZED TRAFFIC CONE
←	TRAFFIC FLOW DURING CONSTRUCTION
⇦	NORMAL TRAFFIC FLOW
Ⓟ	POLICE DETAIL OFFICER
├	CONSTRUCTION SIGN
▭	WORK AREA

"T" INTERSECTION DAILY LANE CLOSURE

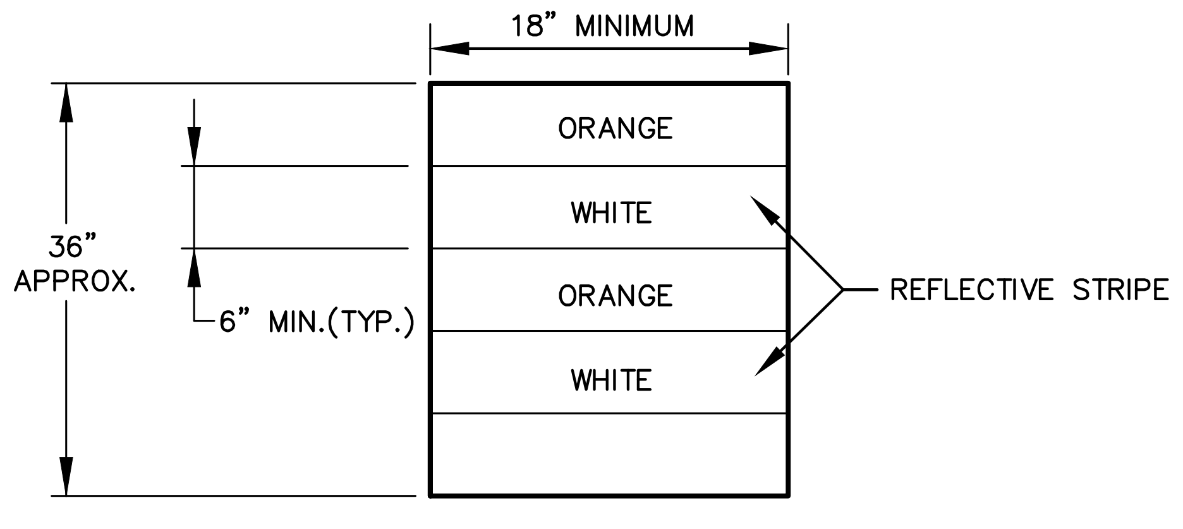
N.T.S.



1. TRAFFIC CONES SHALL BE DESIGN IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CHAPTER VI, SECTION 6C-3, CONE DESIGN.
2. HEIGHT OF THE COMES SHALL BE 28".
3. CONES SHALL BE PREDOMINATELY FEDERAL ORANGE IN COLOR AND WITH REFLECTIVE STRIPS.
4. RUBBER CONES SHALL HAVE INTERIOR RIBS FOR RIGIDITY.
5. PLASTIC CONES SHALL BE COLOR IMPREGNATED.
6. CONES SHALL BE OF A THICKNESS NECESSARY TO WITHSTAND IMPACT WITHOUT DAMAGE TO EITHER CONE OR IMPACTING VEHICLE..
7. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY CONE THE ENGINEER DEEMS NOT SUITABLE FOR PURPOSE INTENDED.

TRAFFIC CONES

N.T.S.

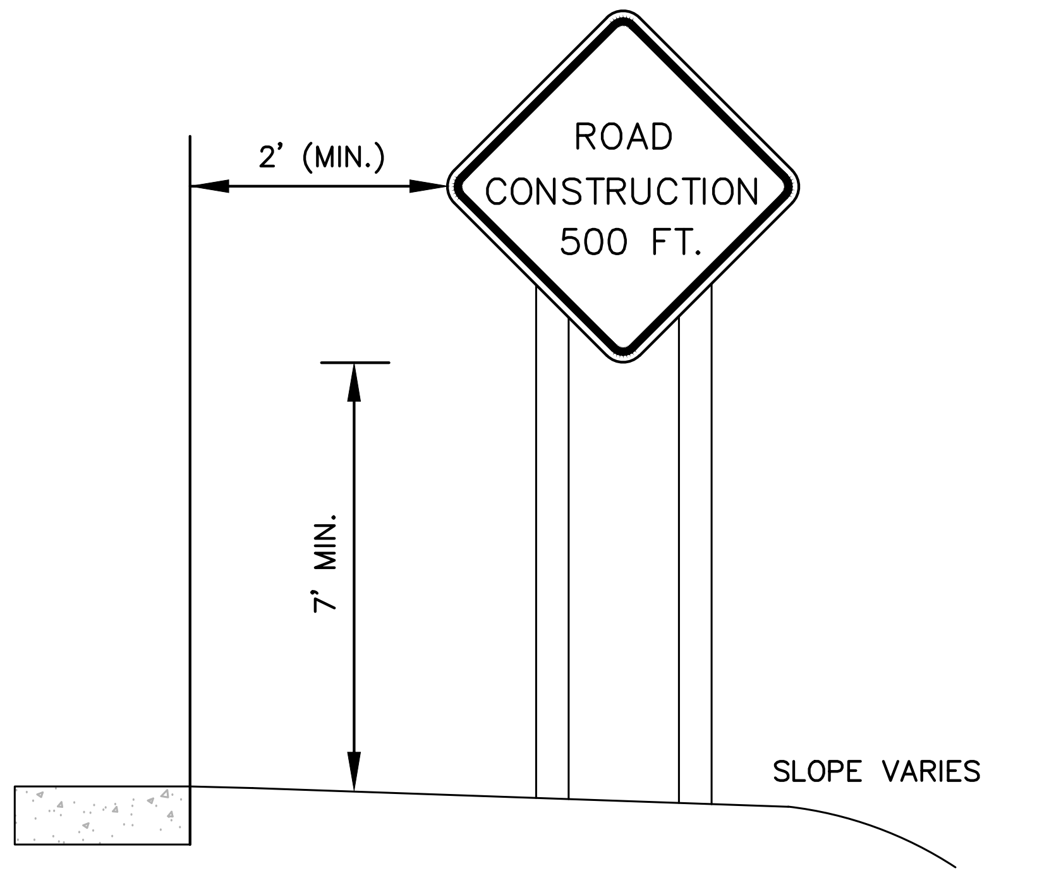


FRONT VIEW

1. TRAFFIC DRUM SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST EDITION M.U.T.C.D.
2. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY DRUM DEEMED NOT SUITABLE FOR THE PURPOSE INTENDED.
3. THE ENTIRE AREA OF ORANGE AND WHITE STRIPES SHALL BE FLEXIBLE ENCAPSULATED LENS REFLECTIVE SHEETING.
4. REFLECTORIZED STRIPES SHOULD NOT BE PLACED OVER THE PROTRUDING CIRCUMFERENTIAL RIBS OF THE DRUM.
5. THE SECTIONS OF DRUMS NOT COVERED WITH REFLECTORIZED STRIPED SHALL BE ORANGE.
6. THE DESIGN OF THE DRUM REQUIRES A PHOTO ELECTRIC STEADY BURN (TYPE "C") WARNING LIGHT MOUNTED ON TOP.

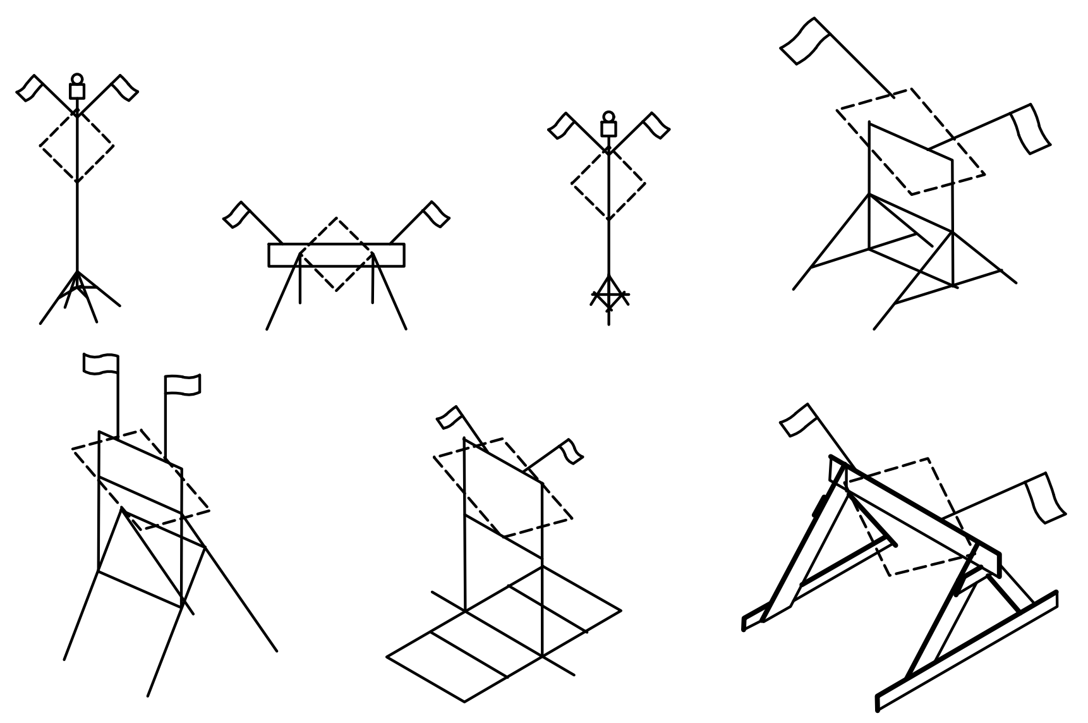
TRAFFIC DRUM

N.T.S.



HEIGHT AND LATERAL LOCATIONS OF STATIONARY CONSTRUCTION PERIOD SIGNS

N.T.S.



1. SIGN SUPPORTS SHALL BE CONSTRUCTED OF A SUITABLE MATERIAL. BREAKAWAY AND/OR COLLAPSIBLE FEATURES SHALL BE INCORPORATED IN THE SIGN SO THAT THE SUPPORT WILL NOT CONSTITUTE A HAZARD TO THE MOTORIST AND/OR WORKERS IN THE WORK AREA. SIGNS MUST MEET NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) 350 STANDARDS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND MASSDOT.
2. MOUNTING HEIGHT OF SIGN UTILIZING STRUCTURES DEPICTED ABOVE SHALL BE A MINIMUM OF 12", WITH A RECOMMENDED HEIGHT OF 18" ABOVE PAVEMENT.
3. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY SUPPORT WHICH THE ENGINEER DEEMS A HAZARD, OR NOT IN THE BEST INTEREST OF THE MOTORING PUBLIC.
4. FLAGS AND/OR BARRICADE WARNING LIGHTS SHALL BE USED AS SHOWN ON THE TRAFFIC CONTROL PLANS AND AS REQUIRED BY THE ENGINEER.

TEMPORARY CONSTRUCTION PERIOD PORTABLE SIGN SUPPORTS

N.T.S.

GENERAL NOTES:

1. THE TRAFFIC MANAGEMENT SCHEMES ILLUSTRATE PERTINENT TRAFFIC CONTROLS. THE CONTRACTOR SHALL SUBMIT A TRAFFIC MANAGEMENT PLAN (TMP) FOR APPROVAL BY THE TOWN AND ENGINEER. IF DETOURS ARE REQUIRED, THEY SHALL BE INCLUDED IN THE TMP.
2. THE TOWN AND GCG ASSOCIATES ARE NOT RESPONSIBLE IN ANY WAY FOR THE ENFORCEMENT, LAYOUT OR DESIGN OF THE TMP. POLICE DETAILS SHALL BE USED TO DIRECT TRAFFIC AROUND A WORK AREA IF TRAFFIC MUST BE TEMPORARILY STOPPED OR REROUTED TO ALLOW FOR MOVEMENT OF WORK VEHICLES OR OTHER EQUIPMENT.
3. ALL TRAFFIC CONTROL TO MEET MASSDOT AND MUTCD (LATEST EDITION).
4. CHANNELIZE TRAFFIC AS REQUIRED USING REFLECTORIZED DRUMS AND STEADY-BURN LIGHTS, RELOCATE DRUMS AS REQUIRED DURING CONSTRUCTION. CHANNELIZING DEVICES ARE TO BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
5. NO SIGNS SHALL BE ATTACHED TO DRUMS OR CONES. ALL SIGNS SHALL BE ATTACHED TO INDEPENDENT SUPPORTS.
6. ALL SIGNS SHALL BE REFLECTORIZED OR ILLUMINATED.
7. FLASHING WARNING LIGHTS AND/OR FLAGS MAY BE USED ON EARLY WARNING SIGNS AS DIRECTED BY THE ENGINEER.
8. CONSTRUCTION ON THIS PROJECT SHALL BE RESTRICTED TO 8 HOURS A DAY OR AS DIRECTED BY THE ENGINEER.
9. PROVIDE POLICE DETAILS TO DIRECT TRAFFIC AS REQUIRED. TRAFFIC CONTROL OFFICERS SHALL BE IN TWO-WAY RADIO COMMUNICATION WITH EACH OTHER AND SHALL BE CLEARLY VISIBLE TO THE TRAFFIC BEING DIRECTED FOR A DISTANCE OF 75 METERS.
10. ALL TRAFFIC CONTROL DEVICES SHALL BE REMOVED IMMEDIATELY WHEN NO LONGER NEEDED.
11. ACCESS/EGRESS OF ALL DRIVEWAY ENTRANCES AND EXITS SHALL BE MAINTAINED AT ALL TIMES.
12. CONTRACTOR SHALL PROVIDE EMERGENCY VEHICLE ACCESS AT ALL TIMES.
13. NO ON-STREET PARKING WILL BE ALLOWED WITHIN THE TRAFFIC CONTROL AREA DURING NORMAL WORKING HOURS.
14. NO DETOURING OF TRAFFIC WILL BE ALLOWED WITHOUT WRITTEN CONSENT OF THE ENGINEER AND TOWN OF TEWKSBURY OFFICIALS.
15. DISTANCES MAY BE ADJUSTED TO ACCOMMODATE FIELD CONDITIONS, AS DIRECTED BY THE ENGINEER.
16. ALL OPEN TRENCHES SHALL BE TEMPORARILY PAVED AT THE END OF EACH WORK DAY. REFER TO PLANS FOR ADDITIONAL INSTRUCTION.
17. ADDITIONAL CONSTRUCTION SIGNS MAY BE REQUIRED BY THE ENGINEER OR TOWN OF TEWKSBURY DURING THE COURSE OF CONSTRUCTION.

STATIONARY CONSTRUCTION PERIOD SIGNS

SIGN		WIDTH	HEIGHT
ROAD WORK AHEAD ↱	CUSTOM-A	48"	48"
ROAD WORK AHEAD ↰	CUSTOM-B	48"	48"
ROAD WORK AHEAD ↱	CUSTOM-C	48"	48"
ROAD WORK AHEAD ↰	CUSTOM-D	48"	48"
ROAD CONSTRUCTION 1000 FT.	W20-1a	48"	48"
ROAD CONSTRUCTION 500 FT.	W20-1b	48"	48"
END CONSTRUCTION	G20-2	36"	18"
VARIABLE MESSAGE BOARD	VMB		

(REFER TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION)

TEMPORARY CONSTRUCTION PERIOD SIGNS

SIGN		WIDTH	HEIGHT
ROAD WORK AHEAD	W20-1	36"	36"
ONE LANE ROAD AHEAD	W20-4	36"	36"
POLICE OFFICER AHEAD	W20-8	36"	36"

(REFER TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION)

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No. 35907
4/6/2022

TOWN OF FAIRHAVEN, MASSACHUSETTS
ROADWAY IMPROVEMENT PROJECT

CONSTRUCTION DETAILS IV
TRAFFIC CONTROL-2

GCG ASSOCIATES, INC.
WILMINGTON MASSACHUSETTS

SCALE: AS NOTED
DATE: FEBRUARY 9, 2022

JOB NO.\FILE NAME: 1841.dwg
DESIGNED BY: L.P.B.
DRAWN BY: L.P.B.
CHECKED BY: M.J.C.
PLAN NO. 13 OF 13